

ADEQUACY OF UNITED STATES ARMY TACTICAL DOCTRINE
FOR THE SUCCESSFUL EMPLOYMENT OF ARMOR
IN OFFENSIVE URBAN OPERATIONS

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degree

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General Studies

by

LAWRENCE L. SHEPHERD, MAJ, USA
B.A., Central Washington University, Ellensburg, Washington, 1992

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Name of Candidate: Major Lawrence L. Shepherd

Thesis Title: Adequacy of US Army Tactical Doctrine for the Successful Employment of Armor in Offensive Urban Operations

Approved by:

_____, Thesis Committee Chair
LTC Louis A. DiMarco, M.A.

_____, Member
LTC John R. Cantlon, B.S.

_____, Member
Dennis L. Dolan, Ph.D.

Accepted this 17th day of June 2005 by:

_____, Director, Graduate Degree Programs
Robert F. Baumann, Ph.D.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the US Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

ADEQUACY OF UNITED STATES ARMY TACTICAL DOCTRINE FOR THE SUCCESSFUL EMPLOYMENT OF ARMOR IN OFFENSIVE URBAN OPERATIONS, by MAJ Lawrence L. Shepherd, 77 pages.

This study examined the adequacy of US Army tactical doctrine for the successful employment of armor in offensive urban operations. Historical case studies on Aachen, Beirut, Grozny, and Baghdad were used to draw lessons learned. These lessons learned were then compared to current US Army tactical doctrine at the company team and platoon levels.

The comparisons found US Army tactical doctrine to be adequate to employ armor successfully in offensive urban operations at the company team and platoon levels. However, the comparison of US Army tactical doctrine resulted in a number of recommendations. These recommendations are divided into two groups. First, recommendations are made relative to the lessons learned. Second, recommendations of a general nature not related directly to lessons learned.

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ACRONYMS

APC	Armored Personnel Carrier
APOD	Aerial Ports of Debarkation
BFV	Bradley Fighting Vehicles
BIAP	Baghdad International Airport
BMP	Bronevaya Maschina Piekhota - Russian acronym english translation: Armored infantry fighting vehicle. Unlike BTRs, BMPs are tracked
BTR	Russian acronym, english equivalent: APC
C2	Command and Control
CFLCC	Coalition Forces Land Component Command
CONUS	Continental United States
CMTC	Combat Maneuver Training Center
CMO	Civil Military Operations
CS	Combat Support
CSS	Combat Service Support
FBCB2	Force XXI Battle Command Brigade and Below
FM	Field Manual
HEAT	High Explosive Anti-Tank
HB	Heavy Barrel
HMMWV	High Mobility Multipurpose Wheeled Vehicle
IDF	Israeli Defense Forces
I MEF	1st Marine Expeditionary Force
IO	Information Operations
JRTC	Joint Readiness Training Center

KIA	Killed in Action
LFX	Live-Fire Exercise
LOC	Lines of Communication
METT-TC	Mission, Enemy, Terrain, Time, Troops Available, and Civilians
NCO	Noncommissioned Officer
MPAT	Multipurpose Antitank
NTC	National Training Center
NTV	Nontactical Vehicle
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
PCC	Precombat Checks
PCI	Precombat Inspections
PLO	Palestinian Liberation Organization
RPG	Rocket-propelled Grenade
SPOD	Seaport of Debarkation
SRP	Special Republican Guard
TACSOP	Tactical Standard Operating Procedures
TEWT	Training Exercise Without Troops
TOC	Tactical Operation Center
TLP	Troop Leading Procedures
TTP	Tactics Techniques and Procedures
UAV	Unmanned Aerial Vehicles
US	United States

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CHAPTER 1

DEFINING THE PROBLEM

Thesis Problem

US Army tactical doctrine has dictated that armor would defeat enemies by maximizing its strengths through maneuver in open terrain. In general, doctrine dictated that armor avoid urban areas. Field Manual (FM) 90-10, *Military Operations on Urbanized Terrain (MOUT)*, published in 1979 states, “Our forces, particularly armored forces, have been trained to avoid built-up areas whenever possible” (1979, F-1). Though this is not the current US Army tactical doctrine on offensive urban operations, it highlights a culture within the US Army.

This has created a culture within the US Army, both officers and noncommissioned officers (NCOs), to avoid urban areas. As recently as the attack into Baghdad, this culture was apparent from the tank commander to battalion commander. The plan to attack the city was to surround Baghdad with tanks while airborne units cleared the capital block by block in a steady, constricting siege, so believed Sergeant Diaz, a tank commander in Operation Iraqi Freedom. Lieutenant Colonel Rick Schwartz, Commander of Task Force 1-64 Armor, and Colonel David Perkins, Commander, 2d Brigade 3d Infantry Division, had the following discussion on the eve of the first armor strike into Baghdad.

Perkins looked up. “At first light tomorrow I want you to attack into Baghdad,” . . . He [Schwartz] had always assumed airborne units would clear the capital at some future date, with the Spartan Brigade setting up blocking positions outside the city. ‘Are you F--king Crazy . . . ? Schwartz’s blurted out, then added . . . sir?’ (Zucchino 2004, 12)

US Army tactical doctrine had clearly created a culture that would avoid urban areas (Zucchini 2004, 3).

The Research Question

This thesis answers the research question: Is US Army tactical doctrine adequate for the successful employment of armor in offensive urban operations? In order to answer this primary question, a series of secondary and tertiary questions must first be answered. The secondary questions are: How does US Army tactical doctrine address the role of armor in offensive urban operations? How has armor been successfully employed during offensive urban operations? How and when has armor not been successfully employed during offensive urban operations? And finally the tertiary question: What are the tactical armor lessons learned from history.

Key Terms and Definitions

The US Army has a unique language filled with acronyms and branch specific terms. This language can be difficult to understand for even a seasoned veteran. Therefore, a few key doctrinal terms are used in this study. The few key doctrinal terms below are arranged in alphabetical order. A more comprehensive list is provided in the glossary of this study.

Armor. The words armor and tank should not be used interchangeably. Rather this study will use armor as a function and not a family of vehicles or specific unit. In this study, armor must bring mobile firepower with protection. Firepower being defined as .50 caliber or higher and protection equals the ability of protection from rocket-propelled grenade (RPG) and below. The most common examples of armored vehicles currently in

the army's inventory are the M1 series tanks, M2/M3 Bradley fighting vehicles (BFVs), the M113 armored personnel carrier (APC), and the Stryker.

Raid. An operation, usually small scale, involving a swift penetration of hostile territory to secure information, confuse the enemy, or destroy his installations. It ends with a planned withdrawal upon completion of the assigned mission (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-155).

Assumptions

The US Army will conduct offensive urban operations in the future. It therefore needs a sound doctrine in order to conduct successful operations. The US Army will also continue to transform. It will retain current equipment consisting of: M1 series of tanks, BFVs, Strikers, and M113 APCs until a future combat system (FCS) is available in unit inventories.

Limitations

This study was limited to reviewing US Army tactical doctrine and tactics, techniques, and procedures (TTP) for offensive urban operations at the armor company team and platoon levels. It did not intend to trace the evolution of US Army tactical doctrine for offensive urban operations above company level. Only open sources are used for research to allow for the widest dissemination within the US Army of findings and recommendations.

Organization and Methodology

This study consists of five chapters. Chapter 1 defines the problem and the research question; reviews key definitions, assumption and limitations, organization, and methodology; and ends with significance of the study. Chapter 2 reviews US Army

tactical doctrine and analyzes it. This will be done by asking the question: Does the tank commander to company commander, given the current written US Army tactical doctrine, have the quality explanation of “how the Army fights” in offensive urban operations as an individual armored vehicle to fighting in a combined arms company team? If the answer is yes, then the doctrine is adequate. The doctrine should consider, at a minimum, mission, enemy, terrain, time, troops available, and civilians (METT-TC), operational considerations to include tactical movement, maneuver, general purpose TTPs, combat support (CS) considerations, and combat service support (CSS) considerations

Chapter 3 reviews four historical case studies. The historical case studies reviewed to determine different conditions in which armor was used in tactical urban operations. The four historical case studies are: the battle of Aachen, 1944; the siege of Beirut, 1982; Russian operations in Grozny, 1994-2000; and the US attack into Baghdad, 2003. Chapter 4 analyzes lessons learned regarding armor in offensive urban operations. The lessons learned are derived from one or more of the historical case studies. Each lesson learned will be evaluated in relation to US Army tactical doctrine. This evaluation will determine if US Army tactical doctrine covers the lesson learned and if it covers it in sufficient depth.

Chapter 5 accomplishes three tasks. First, it will make recommendations relative to the lessons learned from chapter 4. Second, it will suggest recommendations of a general nature not related directly to lessons learned. The chapter ends with conclusions regarding armor in tactical offensive urban operations.

Significance of the Study

The US Army should expect to conduct offensive urban operations in the future. This is due to a few facts. First, the US Army has been extremely successful at the tactical level of war. The world has witnessed victories from Desert Storm, Operation Enduring Freedom (OEF), and Operation Iraqi Freedom (OIF). In light of these lopsided victories it is not likely for a nonpeer to attempt a fight with the US Army in open terrain. Second, even if the US Army wanted to avoid urban areas it would be virtually impossible. The world population continues to grow and move from a rural to an urban-based society. It is estimated that by the year 2010, 75 percent of the world's population will live in urban areas. Also, as the Army continues to move forces from forward Cold War bases to power projection platforms in the continental United States (CONUS), the Army's need to secure forward aerial ports of debarkation (APOD) and seaport of debarkation (SPOD) will be essential. Virtually all of the worlds APODs and SPODs are located in urbanized areas (FM 3-06.11 2002, 1-1).

The US Army recently used armor as the main effort in seizing Baghdad. It is currently conducting offensive urban operations daily against insurgents in Iraq's urban centers. It is therefore critical that the lessons learned from the four historical case studies be incorporated into US Army tactical doctrine as appropriate. The US Army will no longer be afforded the luxury of a doctrine that recommends avoiding urban areas. Tactical armor commanders must have tactical doctrine that provides specific guidance on TTPs to achieve success in the offensive urban operations.

CHAPTER 2

LITERATURE REVIEW

There is a wide variety of literature that applies to the subject of armor in offensive urban operations. This literature falls into three broad categories. First, this chapter will briefly review current US Army tactical doctrine for offensive urban operations from the tank and mechanized platoon to the company and mechanized team. This will be done by asking the question: Does the tank commander to company commander, given the current written US Army tactical doctrine, have the quality explanation of “how the Army fights” in offensive urban operations as an individual armored vehicle to fighting in a combined arms company teams? If the answer is yes then the doctrine is adequate. The doctrine should consider at a minimum METT-TC, operational considerations to include tactical movement, maneuver, general purpose TTPs, CS considerations and CSS considerations. Second, this chapter will conduct a brief literature review for the four historical case studies: the battle of Aachen, 1944; the siege of Beirut, 1982; Russian operations in Grozny, 1994-2000; and the US attack into Baghdad, 2003. And finally it reviews past student papers that researched urban operations.

Doctrinal Review

FM 3-20.15, *Tank Platoon*, is the base line for all tank platoon operations. Chapter seven is devoted to the tank platoon in urban operations. The chapter is broken down into three sections: section one, urban operations planning and considerations; section two, offensive urban operations; and section three, defensive urban operations. Section one describes considerations for the tank and tank platoon. A list of suggested

methods of employment and limitations of tank weapons and ammunitions are one example. “The preferred main gun round in order of preference in an urban environment are High Explosive Antitank (HEAT), Multipurpose Antitank (MPAT), and then sabot rounds” (FM 3-20.15 2001, 8-3). This is due partially to the HEAT round arming at 60 feet, which is better than the MPAT rounds arming at 100 feet from the muzzle.

FM 3-20.15 also has two great visualizations of M1A1/A2 dead space in the urban environment, as shown in figures 1 and 2. This is critical to the armor leader since this dead space must be covered by direct fire weapon systems, aviation, or indirect fire.

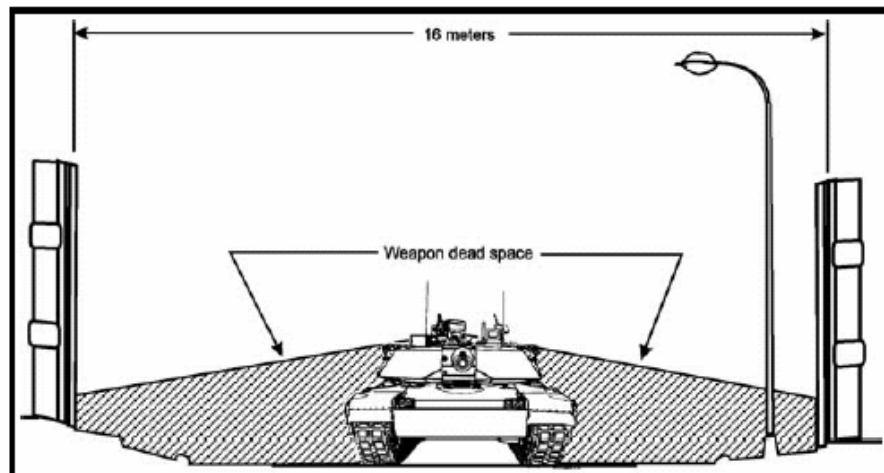


Figure 1. Tank Weapon Dead Space at Street Level

Source: Department of the Army, FM 3-20.15, *Tank Platoon* (Washington, DC: Headquarters DA, November 2001), 8-3.

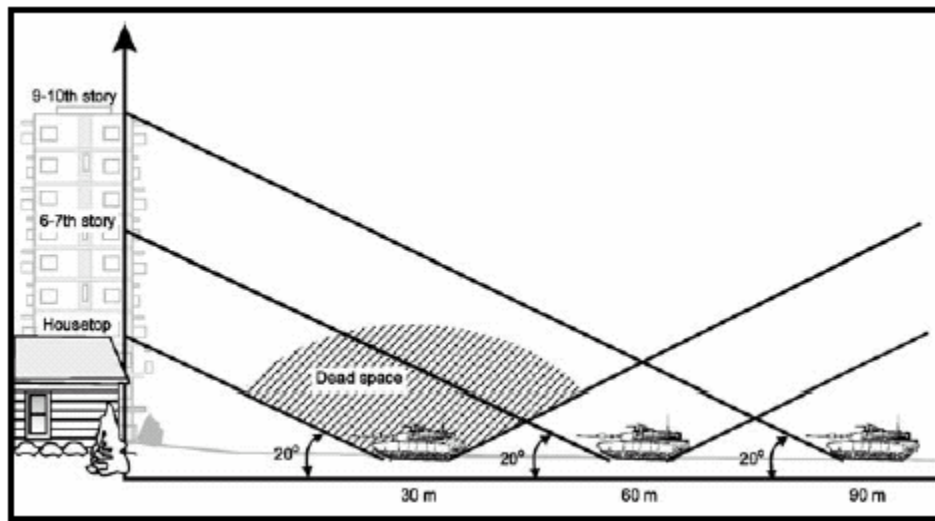


Figure 2. Tank Main Gun and Coax Dead Space Above Street Level
 Source: Department of the Army, FM 3-20.15, *Tank Platoon* (Washington, DC: Headquarters DA, November 2001), 8-4.

Considerations for transporting infantry is also in section one. Figure 3 shows an example of where an infantry squad could mount on the tank. This is also in FM 3-21.71, *Mechanized Infantry Platoon (Bradley)*. Also listed are actions on contact for the infantryman mounted on the tank and they are:

- Wait for the tank to stop.
- At the tank commanders command dismount immediately.
- Do not move forward of the turret.
- Move at least five meters to the side of the vehicle.
- Do not move forward or behind the vehicle. (2001, 8-6)

These two simple TTPs are useful to the tank commander and platoon.

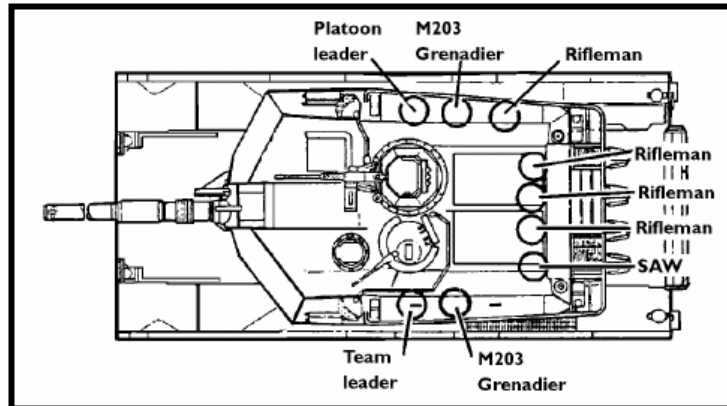


Figure 3. Sample Positions for Infantry Riding on a Tank

Source: Department of the Army, FM 3-20.15, *Tank Platoon* (Washington, DC: Headquarters DA, November 2001), 8-5.

The battlefield operating systems are partially covered. Maneuver, intelligence, fire support, and combat service support considerations are discussed. However, mobility, survivability, air defense, and command and control are not.

Section two address offensive urban operations. It focuses on unique challenges in the offense for the individual tank and the tank platoon. Starting with the types of offensive urban operations, hasty and deliberate. Continuing with the phases of offensive urban operations, task organization considerations, and offensive techniques.

The hasty attack in an urban environment takes into account the same considerations as a hasty attack in the open with the following additional considerations.

- In built-up areas, incomplete intelligence and concealment may require the maneuver unit to move through, rather than around, the unit fixing the enemy in place. Control and coordination become important factors in reducing congestion at the edges of the built-up area.
- Once its objective is secured, an urban hasty attack force may have to react to contingency requirements, either by executing on-order or be-prepared missions or by responding to FRAGOs. (FM 3-20.15 2001, 8-11)

These are all examples of minimum guidance. It would be more useful to provide possible on order missions rather than expressing the possibility of executing them.

The deliberate attack is broken down into six phases. Reconnoiter the objective, move to the objective, isolate the objective, gain a foothold, clear the urban area, and consolidate and reorganize. The phases sound familiar to any other offensive operation, but have a few unique additions. During the isolation of the objective it is critical to not allow the enemy to maneuver or escape. “Once the objective is isolated the subsequent phases should be executed quickly to limit the defenders ability to react” (FM 3-20.15 2001, 8-12). Special consideration by the commander as to what size area will be cleared should use METT-TC as a guide. Some examples of when a commander might not clear all the buildings are.

- An objective must be seized quickly.
- Enemy resistance is light or fragmented.
- Buildings in the area are of light construction with large open areas between them. In this situation, the commander would clear only those buildings along the approach to his objective or those necessary to ensure the unit’s security. (FM 3-20.15 2001, 8-12)

This is clear and concise guidance that illustrates useful examples for the armor platoon leader.

The task force will normally form a support force, an assault force and a reserve when forming task organization. “Normally, there is not a breach force; however, breaching elements may be part of the assault or support force, depending on the type and location of the anticipated obstacles” (FM 3-20.15 2001, 8-13). Each force has a specific mission and should conduct tasks in mutual support of the overall company mission.

The reserve should consist of mounted and dismounted forces. At a minimum the reserve should be able to conduct the following missions.

- Attack from another direction.
- Exploit friendly success or enemy weakness.
- Secure the rear or flank of friendly forces.
- Clear bypassed enemy positions.
- Maintain contact with adjacent units.
- Conduct support by fire or attack by fire as necessary (FM 3-20.15 2001, 8-13)

Generally the support force will consist of tanks and BFVs. The mission of the support force is to isolate the area of operations and specifically the objective. This will allow the assault force to gain a foothold.

The role of the tank platoon normally will be support of infantry. This is generally done from a support by fire position. Additionally the tank platoon can conduct the following urban offensive operations.

- Neutralize enemy positions with machine gun fire.
- Destroy enemy strong points with main gun fire.
- Destroy obstacles across streets.
- Force entry of infantry into buildings.
- Emplace supporting fires as directed by the infantry.
- Establish roadblocks and barricades (FM 3-20.15 2001, 8-14)

FM 3-20.15 provides no guidance on any of the above missions.

FM 3-20.15, *Tank Platoon*, provides basic breath of planning guidance. It includes METT-TC, operational general purpose TTPs, combat support and combat service support planning considerations. It however, does not provide depth within any of these topics.

FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*, is the infantryman's guide to mechanized platoon operations. It devotes chapter six to the mechanized platoon in urban operations. The main topics are task organization,

movement, assaulting a building, conduct of the breach, enter and clear a building, consolidation and reorganization, and continuation of the assault mission. Below is a review of these topics.

Guidance for the task organization of the battle operating systems is only given for the engineers. It only states that, “if engineers are available, they will be task-organized into the assault element” (FM 3-21.71 2002, 6-2). FM 3-21.71 does not address any other specific planning considerations for task organization when utilizing armor.

“ platoons seldom perform independent operations in urban areas” (FM 3-21.71 2002, 6-2). They will normally, at a minimum, conduct offensive urban operations as part of a company team. The mechanized platoon will either be part of the company assault or support element. FM 3-21.71 does not prescribe planning guidance for the use of armor in the assault element as illustrated in FM 3-21.71:

The purpose of the support element is to provide immediate suppressive fire support to enable the assault element to close with the enemy. Normally, the BFV will be the primary support by fire weapons system for the platoon. (2002, 6-4)

This guidance directs for a singular role of armor in offensive urban operations. It limits the use of armor to only providing support fire to the dismounted infantry.

“Doctrinally the platoon leader will accompany the assault element, as it will be the main effort during the assault” (FM 3-21.71 2002, 6-4). The platoon sergeant will lead the support element and must provide direct fire support and other assistance. The minimum other possible required missions are listed below.

- Suppressing enemy weapons systems and obscuring the enemy’s observation within the objective buildings and adjacent structures.
- Isolating the objective buildings with direct fires to prevent enemy withdrawal, reinforcement, or counterattack.
- Obscuring enemy observation of obstacles en route to and at the entry point to the objective during breaching operations.

- Destroying or suppressing enemy positions with direct fire weapons.
- Engaging enemy armor with antitank weapons.
- Securing cleared portions of the objective.
- Providing replacements for the assault element.
- Providing the resupply of ammunition and pyrotechnics.
- Bringing up specific equipment that the assault element could not carry in the initial assault.
- Evacuating casualties, prisoners, and civilians (FM 3-21.71 2002, 6-4)

This is an excellent list of possible missions a support element could conduct. And is a great starting point for planning.

The three-dimensional aspect of urban environments must be considered when planning movement. The leader will consider the buildings, sewers, subways, cellars, and streets when deciding between traveling, traveling overwatch, or bounding overwatch.

FM 3-21.71 has a visualization of this as shown in figure 4.

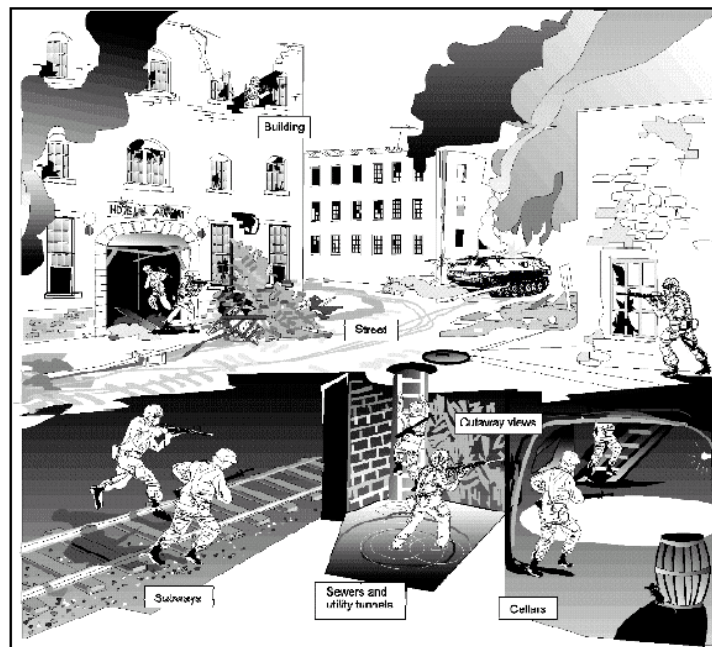


Figure 4. Three-Dimensional Urban Terrain

Source: Department of the Army, FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)* (Washington, DC: Headquarters DA, August 2002), 6-5.

Armor and dismounted infantry should mutually support each other. Armor normally supports with direct fire weapons while dismounted infantry protects armor from antiarmor threats along alleyways and armor dead space. A possible technique is to have each armored vehicle accompanied by a dismounted infantry squad in front to protect against possible antiarmor threats. The platoon will normally travel in bounding overwatch as it moves through an urban environment. An illustration from FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*, shows armor and infantry mutually supporting each other while moving in an urban environment as shown in figure 5.

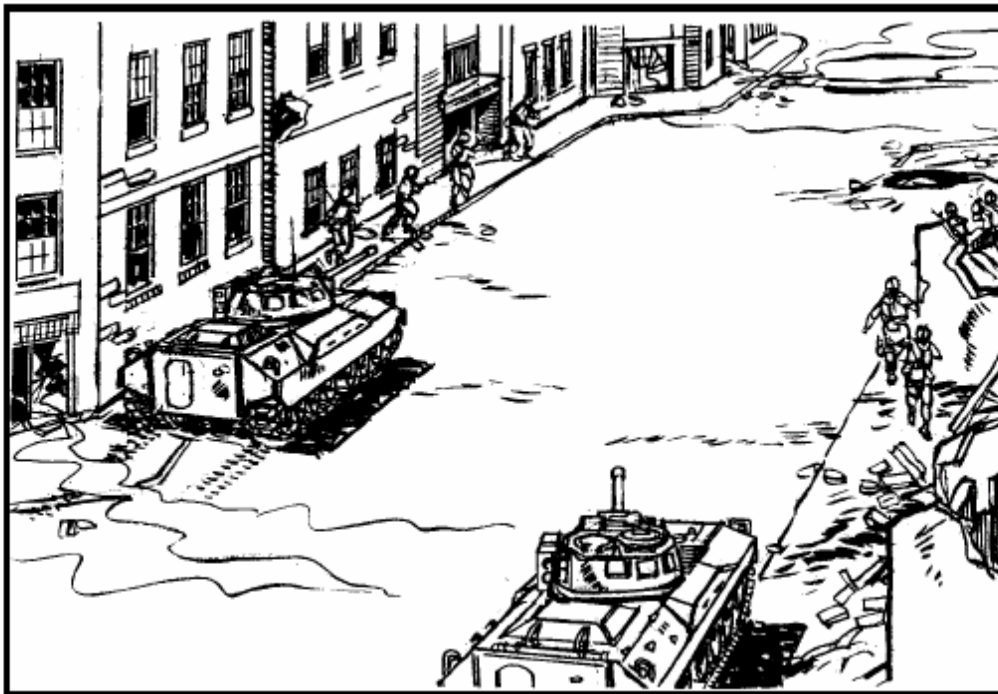


Figure 5. BFVs Provide Cover for Infantry Squad

Source: Department of the Army, FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)* (Washington, DC: Headquarters DA, August 2002), 6-6.

Armor can also be utilized in conducting a ballistic breach. The M1 series of tank's main gun rounds will produce a very effective breach in a wall or door. The HEAT round is the preferred round due to its proximity explosive nature verses the sabot round which will travel through the building. "The BFV's 25-mm cannon is another effective way to conduct a ballistic breach, when using HE rounds and firing in a spiral firing pattern as shown in figure 5" (FM 3-21.71 2002, 6-6).

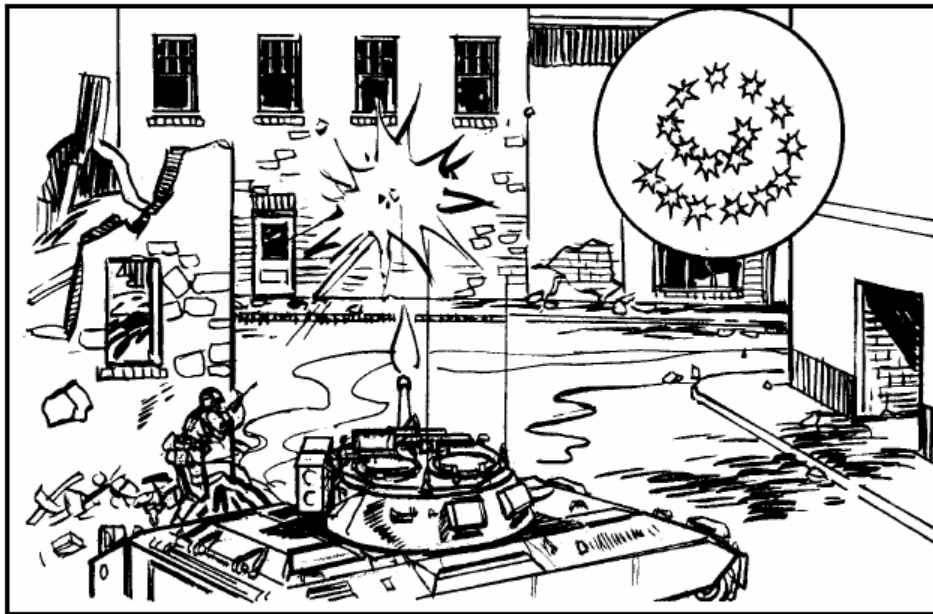


Figure 6. Spiral Firing Pattern

Source: Department of the Army, FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)* (Washington, DC: Headquarters DA, August 2002), 6-12.

Though FM 3-21.71 provides planning guidance including METT-TC, operational general purpose TTPs, combat support and combat service support planning considerations, it generally provides guidance for dismounted infantry only. It also has

limited discussion about planning considerations for armor. The only time it addressed a battlefield operating systems was engineers. And this was only to task organize them into the assault element. It also fails to provide guidance for armor in the main topics of assaulting a building, enter and clear a building, consolidation and reorganization, and continuation of the assault mission.

FM 3-90.1, *Tank and Mechanized Infantry Company Team*, dedicates chapter seven to the tank and mechanized company team in urban operations. The chapter has three sections: urban operations planning considerations; offensive urban operations; and defensive urban operations. This study will review the sections urban operations planning considerations and offensive urban operations.

The section urban operations planning considerations provides general guidance already discussed in field manuals: *Tank Platoon and Mechanized Infantry Platoon and Squad (Bradley)*. It also discusses dead space and three-dimensional urban terrain that are in figures 1, 2, and 4 of this study. However, it has three unique lists of considerations for M1 series of tanks, BFVs, and battlefield operating systems, of relevance to this study.

The first unique list discusses main gun ammunition of the M1 series of tanks. It illustrates the danger areas from the sabot pedals and overpressure and noise areas as shown in figure 7. The diagram provides standard distances that should be avoided by personnel outside the M1 series of tanks while it is firing sabots. The diagram is also useful as a general gage of danger from noise from all rounds fired from the M1 series of tanks.

The M1 series of tanks ammunitions effects while operating in an urban environment are provided. These facts are supported and not contradictory to *tank*

platoon and *mechanized infantry platoon* field manuals. The urban operations specific facts include the following types of rounds and weapons: HEAT, MPAT, Sabot, M2 heavy barrel (HB) machine gun, and the M240 coaxial and loaders machine guns, respectively. FM 3-90.1, *Tank and Mechanized Infantry Company Team*, states that the HEAT round is the preferred primary main gun ammunition in urban operations. It has the best penetration of walls and sand bag reinforced strongpoints. The round also arms at a relatively short range of 36 feet from the gun tube. The MPAT round is also effective against walls but are not as effective as HEAT against heavier structures (FM 3-90.1 2002, 7-7).

Sabot ammunition is the least preferred round in urban operations. It is the most effective round against vehicular targets. However, its discarding petals endanger accompanying infantry elements as discussed earlier. In addition to the sabot petals and the overpressure of the main gun presents a danger to dismounted troops within a 90 degree arc out to 200 meters from the gun tube as shown in figure 7 (FM 3-90.1 2002, 7-7).

The machine guns on the M1 series of tanks have a few unique facts listed in FM 3-90.1. The external M2 HB machine gun can elevate to plus degrees. However, the TC must be unbuttoned to fire and load the M2 HB machine gun. The M240 coaxial machine gun and the loader's M240 machine guns can effectively deliver suppressive fire against enemy personnel and against enemy positions. But just like the M2 HB machine gun, the loader must be unbuttoned to fire and load the weapon. These weapons do however, provide the only direct fire to the dead space of the M1 series of tanks created in an urban environment.

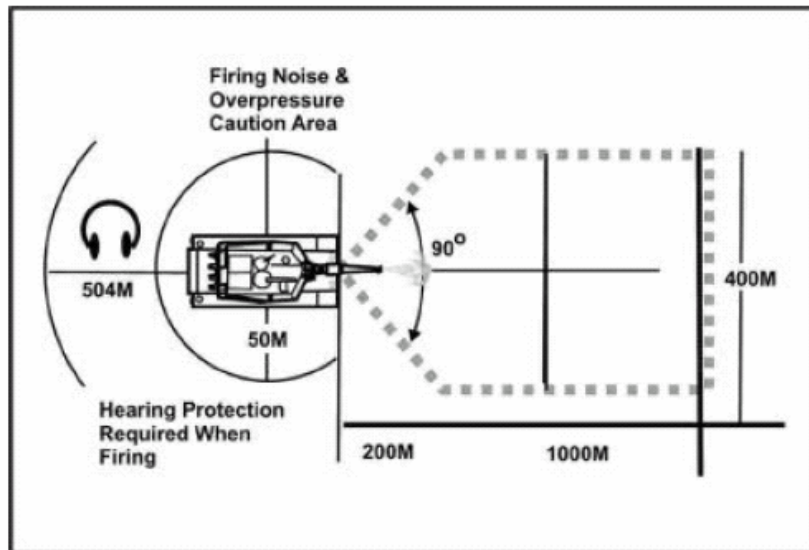


Figure 7. The 20 millimeter Sabot Petal Danger Area

Source: Department of the Army, FM 3-90.1, *Tank and Mechanized Infantry Company Team* (Washington, DC: Headquarters DA, 9 December 2002), 7-8.

The second unique list shown in FM 3-90.1, *Tank and Mechanized Infantry Company Team*, is on specifics of the BFV in the urban environment. It states that the primary role of the BFV is to provide suppressive fire for dismounted infantry and to breach exterior walls. The 25-millimeter main gun can penetrate concrete up to 16 inches thick, can easily penetrate brick structures, and are highly effective against earthen and sandbag-reinforced bunkers. It can elevate up to plus 60 degrees and depress to negative 10 degrees (FM 3-90.1 2002, 7-9).

The third and last unique list is on the battlefield operating systems. FM 3-90.1, *Tank and Mechanized Infantry Company Team*, provides a short list of a couple of considerations for the company team when operating in an urban environment. First is the

formation of combined arms teams at the lowest levels. In urban operations it may be required to task organize down to platoons and squads. For example having a tank section work with an infantry platoon. Second is the vulnerability of armored forces in an urban environment. Though armor provides firepower to effectively support infantry, they are also vulnerable to attack from enemy infantry (FM 3-90.1 2002, 7-14).

The second section of FM 3-90.1, *Tank and Mechanized Infantry Company Team*, is devoted to offensive urban operations. It consists of the following topics: task organization, isolate an urban objective, assault a building, attack of a block or group of buildings, hasty attack, movement to contact, reconnaissance, seizure of key terrain, and combat service support. All of these topics are reviewed in relation to armor employment into offensive urban operations.

The task organization considerations are basically the same for company team as already discussed with platoons. A support force, assault force, and breach force, normally part of the assault force, are still included in the company team during offensive urban operations. Also a reserve may be used. The guidance provided mirrors the platoon manuals with no additional guidance.

Generally throughout this field manual armor is relegated to the singular role as the support element. This is best illustrated in the example of guidance given to the company team attacking a block in FM 3-90.1, *Tank and Mechanized Infantry Company Team*, titled “Role of Tanks and Bradley Fighting Vehicles,” and states:

The commander must employ tanks and BFVs to take advantage of their long-range lethality. He can usually do this by positioning the armored vehicles outside the built-up area, where they remain for the duration of the attack to cover high-speed avenues of approach. (2002, 7-31)

Armor is generally considered as a means to make a breach or the use of its direct fire weapon systems to suppress and destroy the enemy from support by fire or attack by fire positions outside of the urban environment. The only exception in this field manual is the planning guidance for the movement to contact and reconnaissance where armor is stated as possibly required.

The movement to contact and reconnaissance is traditionally a more dangerous mission than the other types of attacks. The need for speed and protection is higher and normally should be conducted by armor. This field manual gives sound guidance when it states, “It is preferable to conduct this mission with tanks and or BFVs, as the actual task organization will be determined by the factors of METT-TC” (2002, 7-22).

FM 3-90.1 does provide planning guidance including METT-TC, operational general purpose TTPs, combat support and combat service support planning considerations. It also has good examples and illustrations of offensive urban operations. However, it focuses mainly on dismounted infantry. Armor is rarely considered as the main effort. It generally is only considered part of the support element or supporting dismounted infantry in the assault element.

FM 3-06, *Urban Operations*, devotes chapter 6 to offensive urban operations. It provides a foundation of offensive urban operations. It also describes the characteristics, the framework, forms and types of urban offensive operations. This field manual routinely provides guidance and shows historical examples to support the doctrine. For example, after discussing the forms of offensive maneuver in the urban environment, a brief historical example of Metz (1944) is shown to reinforce doctrine. But most

important there are two topics discussed in this field manual that are relevant to armor in urban operations. They are combined arms and bold maneuver.

The combined arms task organization is essential to successful urban operations. FM 3-06, *Urban Operations*, discusses the importance of armor, infantry, engineers, aviation and artillery working together in combined arms task organizations. The role of armor is to provide suppressive fires. Armor or aviation units can also attack in urban environments to facilitate maneuver through shock action that can have a psychological effect on the enemy. A more common tactic is for the infantry to protect armor as they move through urban environments. Combined arms approach also ensures that engineer support dismounted and mounted maneuver. Field artillery provides assistance by suppressing known enemy positions. Artillery may also be used in a direct fire role much like the M1 series of tanks and BFVs. FM 3-06 clearly discusses the roles and importance of combined arms teams and task organization (2003, 5-53).

Bold maneuver is the second element essential to successful armor urban operations that is discussed in FM 3-06. It may be required for commanders to create an opportunity with bold maneuver in order to seize a foothold. This type of maneuver may require a deep strike where the enemy has not prepared deliberate defenses. FM 3-06 states there are three ways to conduct such a deep strike, the airborne or air assault, amphibious assault, and the rapid penetration followed by an exceptionally aggressive exploitation. An example of this last method could include a heavy force using shock, armor protection, and mobility. The TTP of using bold maneuver is stressed in FM 3-06 (2003, 6-29).

FM 3-06.11, *Combined Arms Operations in Urban Terrain*, acknowledges up front that offensive urban operations are based from US Army offensive doctrine and has been modified to address urban operations. It does, however, discuss general guidance for urban operations and provides specific armor planning considerations for direct fire systems, tank dead space, task organization examples, and the movement to contact.

FM 3-06.11 is quick to point out that direct fire weapon systems are best to destroy enemy targets in an urban environment. “The best direct-fire support is provided by BFVs but can also be provided by tanks and or howitzers” (2003, 4-3). The only drawback for using tanks and howitzers is their tendency to produce rubble. This in turn creates favorable terrain for the defender.

Once again the role of armor is focused on support with emphasis on employment outside of the urban environment. This is best shown in the following quote:

Tanks may support by fire when lead units are seizing a foothold. During the attack of an urban area, tanks overwatch the Infantry’s initial assault until an entry into the area has been secured. Tanks are supported by infantry organic weapons to suppress enemy strongpoints while they move into overwatch positions. Commanders employ tanks to take advantage of the long range of their main gun. This procedure is usually achieved with tanks employed outside the urban area, for the duration of the attack to cover high-speed mounted avenues of approach, especially during the isolation phase. (2003, 4-3)

This field manual also points out that tanks may enter the urban area but are to be used to support dismounted infantry. Also, dismounted infantry must protect tanks whether they are in the urban environment or providing direct fire support from outside the urban environment. This is in large part due to the increased dead space tanks have in an urban environment.

FM 3-06.11 also discusses armor dead space and has similar diagrams as shown figures 1 and 2. It also has a unique figure to illustrate dead space shown in figure 8.

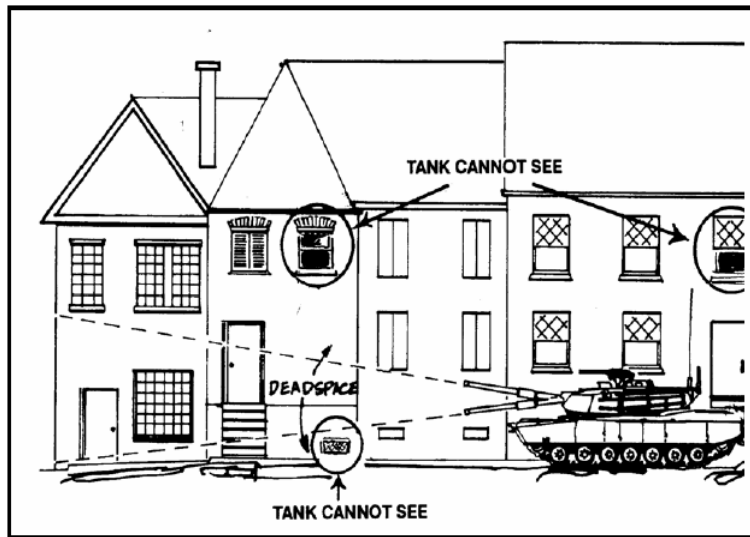


Figure 8. Tank Dead Space

Source: Department of the Army, FM 3-06.11, *Combined Arms Operations in Urban Terrain* (Washington, DC: Headquarters DA, 28 February 2002), 7-8.

This illustration shows vulnerability of armor in urban operations from second floor and basement attacks.

FM 3-06.11 provides examples of possible task organizations to be used by the company team during an attack in an urban environment. For example the below task organizations are some examples for a light and heavy mixed:

Example 1:

Assault - Two rifle platoons, each reinforced with engineers.

Reserve - One rifle platoon.

Support - BFV platoon and the company AT weapons and 60-mm mortar

Example 2:

Assault - Two rifle platoons reinforced with engineers.

Reserve - One rifle platoon.

Support - One tank platoon. The company AT weapons and 60 millimeter mortar section.

Example 3:

Assault - Two rifle platoons, each with engineers. One tank section OPCON to an Infantry platoon.

Reserve - One rifle platoon.

Support - A tank section and the company AT weapons under the tank platoon leader's control. The company 60-mm mortar section. (All available direct and indirect fire weapons should be used to isolate objective buildings. Direct fire down streets and indirect fire in open areas between buildings to help in the objective isolation). (2003, 4-43)

These examples give the armor leader a start for possible task organization solutions.

Examples of armor conducting operations as the main effort in the assault are not mentioned.

Movement to contact and reconnaissance are the only examples of US Army tactical doctrine recommending the use of armor as the main effort. FM 3-06.11 states:

This type of reconnaissance is accomplished with a company team. It is preferable to conduct this mission with tanks and or BFVs. The actual task organization will be determined by the factors of METT-TC. (2003, 4-53)

Movement to contact and reconnaissance missions are more dangerous due to the increased danger areas and restricted terrain in an urban environment. Therefore the inherent protection of armor is normally preferred when conducting these missions.

FM 3-06.11 does provide planning guidance including METT-TC, operational general purpose TTPs, combat support, and combat service support planning considerations. However, it mainly focuses on dismounted infantry. Armor is only considered to be an option for the main effort in movement to contact and reconnaissance missions and limits armor as part of the support element or supporting infantry dismounts in the assault element.

US Army offensive urban operations doctrine generally limits the role of armor to a support role and normally in the support element. If organized into the assault element only as support to dismounted infantry. US Army offensive urban operations doctrine

does however, provide clear planning guidance that includes METT-TC, operational general purpose TTPs, combat support, and combat service support planning considerations.

Historical Literature

The Battle of Aachen, 1944

The battle of Aachen has many good accounts of the battle. The best books for setting the stage and understanding the battle were books written by Charles Whiting: *Siegfried, Westwall and Bloody Aachen*. They were helpful in telling the story and providing background details to the Normandy campaign, which preceded Aachen. The US Army Command and General Staff College has produced a book, *Block by Block*, that is an excellent study of the battle of Aachen written by Christopher Gabel. It not only tells a detailed account of the battle, it also provides analysis. The best document on Aachen by far is the first hand account of Lieutenant Colonel D.M. Daniel. His insight to Aachen was written as an independent study after World War II while he attended the command and general staff college. Though it is only 17 pages, it describes very specifically TTPs used in the battle of Aachen.

The Siege of Beirut, 1981

Richard Gabriel's book, *Operation Peace for Galilee*, is by far the easiest source to use to study the siege of Beirut. It provides a chapter of analysis that is broken down into tactics, infantry, armor, artillery, medical care, engineers, logistics, reserves, and helicopters. It even provides a lessons learned chapter for the reader. Also, the book *Block by Block*, has a detailed account written by George W. Gawrych that was essential to this study. And finally the autobiography of Ariel Sharon, *Warrior*, is the best work for

describing the holistic strategy for the Israeli operation, Peace for Galilee, which ultimately led to the siege of Beirut.

Russian Operations in Grozny, 1994-2000

Once again *Block by Block*, provides a detailed account. Written by Timothy Thomas, it provides excellent detailed analysis of the Chechen Wars. Also the RAND study, *Russia's Chechen Wars 1994-2000*, is a good analysis of the Chechen wars. It provides a detailed description of the success and failures of the Russians. And it is neatly organized by battlefield operating systems. This made it easy to find techniques, tactics and procedures used by the Russians and Chechens.

The US Attack into Baghdad, 2003

The recent war in Iraq has produced two outstanding books. First, *Thunder Run, The Armored Strike to Capture Baghdad*, written by David Zucchino. It is the best second hand account available that discusses armor in offensive urban operations. Lessons learned from the tank commander to the company commander come alive in this book. Though David Zucchino did not take part in the fighting, he was with 3d Infantry Division during the invasion of Iraq. Second, Colonel Gregory Fontenot, US Army, Retired, along with the Iraqi Freedom study group did a superb job of telling the Army's story in Iraq in the book *On Point*. However, it is not filled with issues or lessons learned. It tends to discuss the tactics that went right and fails to address areas the US Army could improve on. Finally Williamson Murray and Major General Robert H. Scales, Jr. have written a marginally useful book for this study titled, *The Iraq War*. It tends to discuss the operational and strategic levels of the Iraq war. It does not discuss in detail the tactical level of war, which was the focus of this study.

Student Papers

Generally the ten student theses written were not useful to this research study. This is due to the US Army completing a doctrinal revision on 2002 of field manuals: FM 3-06, *Urban Operations*, FM 3-06.11, *Combined Arms in Urban Operations*, FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*, FM 30-20.15, *Tank Platoon*, and FM 30-90.1, *Tank and Mechanized Infantry Company Team*. And all of the theses were written between 1978 and 2000 prior to the revision.

All ten theses found current US Army Doctrine to be insufficient and recommended it be completely revised. Subsequently, many of these recommendations have been incorporated into current US Army Doctrine. Out of the ten only four discussed armor doctrine and offensive urban operations. Major David Hain wrote the best of the four theses titled “Sufficiency of Doctrine for the Use of Armor in Military Operations on Urban Terrain.” It traces the evolution of US Army Doctrine from World War II to 1994 and is a great starting point to understand the evolution of US Army Doctrine.

Conclusion

The doctrinal and historical reviews suggest that US Army tactical doctrine is missing sufficient detail. The doctrine does not provide adequate detail for conducting offensive urban operations in any of the platoon or company field manuals. It is also infantry centric and rarely discusses employing armor as the main effort. The past student research all recommended that US Army tactical doctrine was not sufficient to conduct urban operations. However, the research was completed prior to the Army’s doctrinal revisions in 2002. Chapter 3 will discuss the specifics of the four history case studies.

CHAPTER 3

HISTORY CASE STUDIES

This chapter reviews four historical examples to describe different conditions in which armor was used in tactical offensive urban operations. Each case study will discuss the background and general description of the operation and overview of the role of armor. The four case studies include: The battle of Aachen, 1944; the siege of Beirut, 1982; Russian operations in Grozny, 1994-2000; and the US attack into Baghdad, 2003. Each of these history case studies provides valuable armor lessons learned.

The Battle of Aachen, 1944

Aachen was a critical military objective for the allied armies in the fall of 1944. It is located on one of two main axes to advance from France to Germany. The ancient city of Aachen did not have strategic value to the Germans or Allies, but it did have a symbolic importance as the capital for the first Reich and its emperor Charlemagne. It also had immense symbolic importance as the first major German city likely to fall to the allies. Aachen was also one of the major cities along the German's self-proclaimed impregnable Siegfried Line (Gabel 2003, 63).

The Allies landed in Normandy on 6 June 1944 and planned on advancing into Germany along two axes. The allied plan was to have a twin thrust, with the British 21st Army Group on the left, and the American 12th Army Group on the right (see figure 9). The plan had the British as the main effort with US forces as a supporting effort. The American 12th Army Group consisted of the 3d and 1st Armies. Their plan called for the 3d Army to advance toward Metz and the 1st Army to advance through the Aachen corridor. The 12th Army group would then advance into Germany (Gabel 2003, 63).

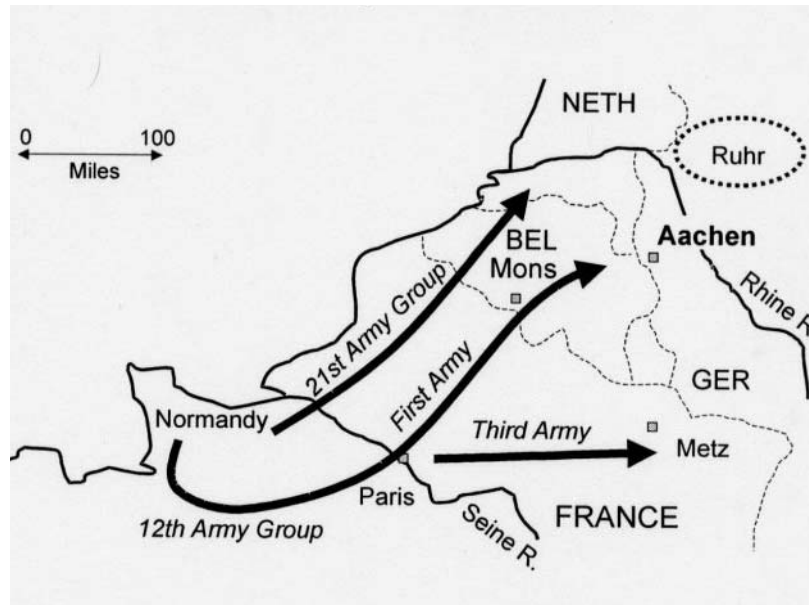


Figure 9. Allies Operational Plan After Normandy Invasion

Source: Christopher R. Gabel, "Knock em All Down: The Reduction of Aachen," in *Block by Block*, ed. William G. Robertson, 64 (Ft. Leavenworth, KS: US Army Command and General Staff College, 2003).

Expectations were for the 1st Army to go past Aachen to the Rhine and possibly forty miles beyond. There was little strategic value in seizing Aachen during the summer of 1944. 1st Army was pursuing the German Army to the German border and the surrounding road network supported bypassing the city. The Americans reached the outskirts of Aachen on 12 September at the limits of their lines of communication (LOC). This forced the 1st Army to go on the defensive until proper amounts of supplies could catch up to support the offensive to Aachen and beyond. In the meantime the Germans conducted small level counterattacks into the American lines (Gabel 2003, 65-67).

The Germans took advantage of this tactical pause and increased attacks and reinforced Aachen. This changed the Allies' tactical evaluation of Aachen. Aachen now

became a dangerous salient on the left flank of the VII Corps' penetration of the Westwall. First Army leadership decided to reduce Aachen prior to continuing the advance into Germany. 30th and 1st Infantry Divisions were tasked with the encirclement of Aachen (see figure 10). At this point, the Germans were only able to conduct limited attacks and defend. As the 1st Infantry Division pushed north to conduct the encirclement, two unique TTPs were used (Gabel 2003, 68).

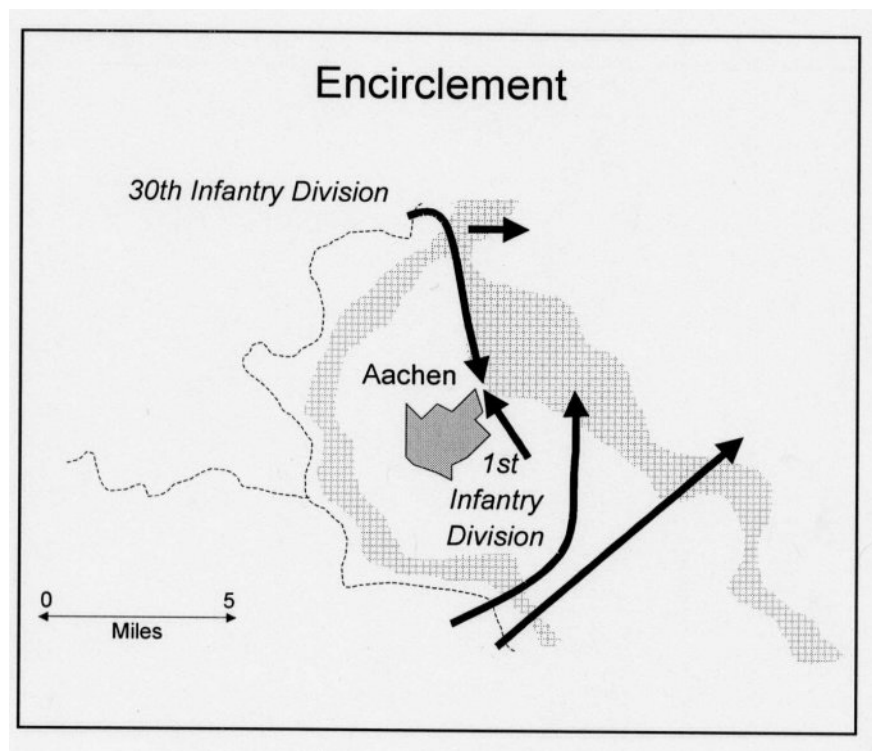


Figure 10. The Encirclement of Aachen

Source: Christopher R. Gabel, "Knock em All Down: The Reduction of Aachen," in *Block by Block*, ed. William G. Robertson, 69 (Ft. Leavenworth, KS: US Army Command and General Staff College, 2003).

One technique that the 1st Infantry Division, commanded by Major General Huebner, used with effect was battalion and below sized armor raids. The raids consisted

of M4 Shermans with infantry squads atop the tanks. These raids kept the Germans off balance and guessing as where the American would attack. The 1st Infantry Division also used bulldozers to defeat enemy pillboxes. They moved earth toward the pillboxes immune to small arms fire and the enemy could either surrender or be buried. Although these special TTPs were important, by and large the encirclement was accomplished through conventional tactics. After the 30th and 1st Infantry Divisions accomplished the encirclement of Aachen the Germans were limited to fighting in the city with their available forces (Werstein 1962, 64-65).

Colonel Gerhard Wilck was the German garrison commander at Aachen. The garrison at Aachen consisted of the 246th Volksgrenadier Division. It had only four of its seven infantry battalions. Colonel Wilck had two fortress battalions that consisted of second-rate soldiers. In addition to infantry the garrison had five Panzer IV medium tanks armed with high velocity 75-millimeter guns and 32 artillery pieces. The Germans also had a new antitank weapon called the panzerfaust. It was deadly against M4 Shermans, especially in urban operations because of its short range of 30 to 80 meters. Wilck's forces outnumbered the allies by a ratio of three to one against the units that actually attacked Aachen (Gabel 2003, 71-72).

Major General Huebner, 1st Army commander, delivered an ultimatum on 10 October to the garrison of Aachen. It gave the Germans twenty-four hours to surrender. The ultimatum went unanswered and the 1st Infantry Division began the reduction of Aachen. The division was also responsible for maintaining parts of the southern encirclement. Because of this it only had the 26th Regiment available for attack on the city. The regiment fought with two battalions the 2d Battalion, 26th Regiment (2/26

Infantry) and 3d Battalion, 26th Regiment (3/26 Infantry). The 1st Battalion, 26th Regiment (1/26 Infantry) was attached to the 3d Armored Division. The 2/26 Infantry and 3/26 Infantry had very different missions. The 3/26 Infantry was tasked with seizing the northern part of Aachen to secure the factory district. The 2/26 Infantry mission was to clear the old central city part of Aachen (see figure 11). The Germans were not expecting the attack to come from the east but rather the west. This provided the 26th Regiment with an element of surprise from which the Germans never recovered (Daniel 1947, 4; Gabel 2003, 73).

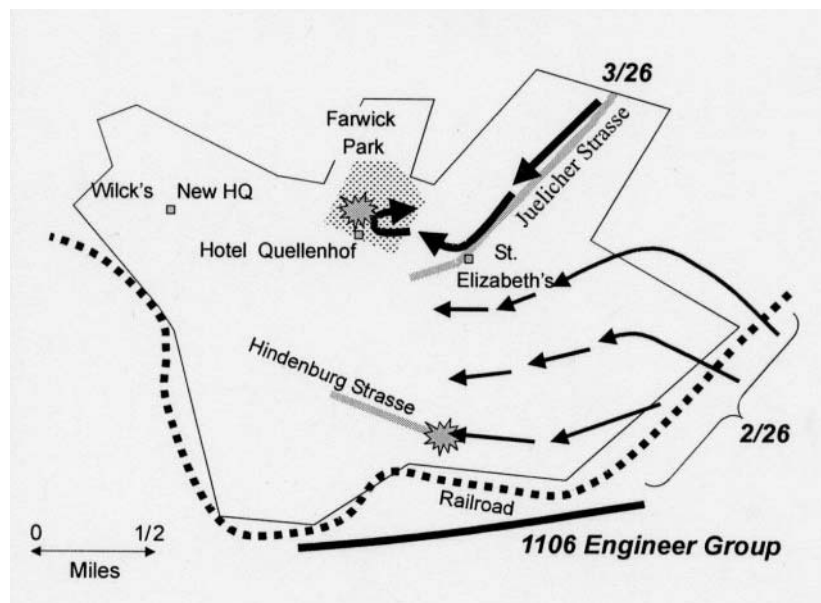


Figure 11. Axis of Advances Into Aachen

Source: Christopher R. Gabel, "Knock em All Down: The Reduction of Aachen," in *Block by Block*, ed. William G. Robertson, 74 (Ft. Leavenworth, KS: US Army Command and General Staff College, 2003).

Lieutenant Colonel D. Daniel commanded 2/26 Infantry during the attack on Aachen. He took several steps to set up his battalions for urban operations. He decided to

task organize his companies into task forces. “Each of the three rifle companies was made of a small task force by attaching to it three tanks or tank destroyers, two 57-millimeter antitank guns, two bazooka teams (in addition to their own), one flame thrower, and two heavy machine guns” (1947, 7). To facilitate command and control (C2) Lieutenant Colonel Daniel incorporated a numbering system of buildings and critical intersections. This allowed the battalion to conduct a methodical linear attack. It also limited the amount of fratricide.

Lieutenant Colonel Daniel decided to employ his armor by following in support of his infantry. The few number of tanks available limited this tactic to only the key routes. The 2/26 Infantry also treated every building as a possible strong point, as stated by Lieutenant Colonel Daniel: “We continuously impressed upon all individuals the necessity for keeping up a continuous stream of fire with all available weapons” (1947, 5). Walls and buildings were knocked down by any means available. This included tanks, antitank guns, and artillery from direct and indirect fire. These tactics increased the collateral damage to buildings and also led to the slogan attributed to Lieutenant Colonel D. Daniel: “Knock ‘em all down.” It caused the Germans to either surrender or risk death from direct fire. A disadvantage of the use of massed fires was that it provided defensive positions for the Germans in the rubble caused by the destruction. Despite this disadvantage the US forces considered the tactic effective.

The most important tactic used by 2/26 Infantry was the use of combined arms. The infantry protected the valuable and vulnerable armor from the panzerfaust. In return the armor provided lethal direct fire on enemy targets from an angle perpendicular to the axes of advance whenever possible.

These tactics proved too much for the Germans. Colonel Wilck issued his unconditional surrender to the 3/26 Infantry on the 21st of October 1944. The battle had taken only nine days of fighting. The total losses inflicted on the 2/26 Infantry and attached units were less than 100. This is attributed to the slow methodical advance into the city and the continued high rate of indirect and direct fire throughout the operation (Daniel 1947, 16).

The Siege of Beirut, 1982

The Israelis sought to neutralize the Palestinian Liberation Organization (PLO) by invading Lebanon on 6 June 1982. The PLO had actively opposed the Israeli state and had used Lebanon as a Palestinian State within a state. From Lebanon the PLO was training terrorist and launching attacks on Jewish targets throughout the world. The PLO also conducted limited artillery attacks on Israeli towns in the Galilee area and returned to the safety of friendly Lebanese urban areas (Gawrych 2003, 205).

Israeli Defense Force (IDF) doctrine emphasized the use of armor in open areas to destroy the enemy quickly and decisively. In general terms the IDF doctrine consisted of four concepts:

First, time is of the essence during operations and combat, as there is always the threat of international intervention or intervention of a superpower. Second, in order to achieve speed, forces should be landed in the rear of the enemy's territory from air and sea. Third, should it become necessary to pass cities en route to the interior of enemy territory, they should be bypassed or traversed as quickly as possible, using massive firepower, but not engaging in mopping-up the entire city. Fourth, if the operational objectives are located in the cities, these cities should be encircled before anything else. (Gawrych 2003, 37)

The doctrine clearly states for the IDF to avoid unimportant urban areas. However, any plan to deal with the PLO had to address an urban fight in Beirut. IDF's organization and doctrine were armor centric and designed to conduct wars quickly in the open desert. War

plans were developed around these characteristics. Further, the IDF's doctrine was inadequate for large-scale urban operations. Their limited urban doctrine only had two maxims, which they had learned through their bitter experience in the Suez during the 1973 Yom Kippur War. First, maxim was to avoid cities whenever possible. Second, was to only conduct limited urban operations when located very close to an Arab capital with the purpose to threaten it and hope of ending the war (Desch 2001, 35).

Ariel Sharon, the Israeli Defense Minister, listed seven objectives as essential to any plan to deal with the PLO problem. First the main objective was the annihilation of the PLO threat. Second, neutralize the Syrians through threatening maneuvers while attempting to avoid fighting with them. Third, remove all northern settlements from shelling range. Fourth, the operations should be carried out so that Shi'tes, Druze, and Christians will not be harmed (see figure 12). Fifth, they planned on not keeping forces in areas they captured. Sixth, the operation was not aimed at guaranteeing the integrity or the sovereignty of Lebanon. And finally linking up with the Christian zone in the north is the precondition for attaining all the above-mentioned objectives. These national and political objectives served as the IDF's military's objectives throughout the campaign (Sharon 1989, 436).

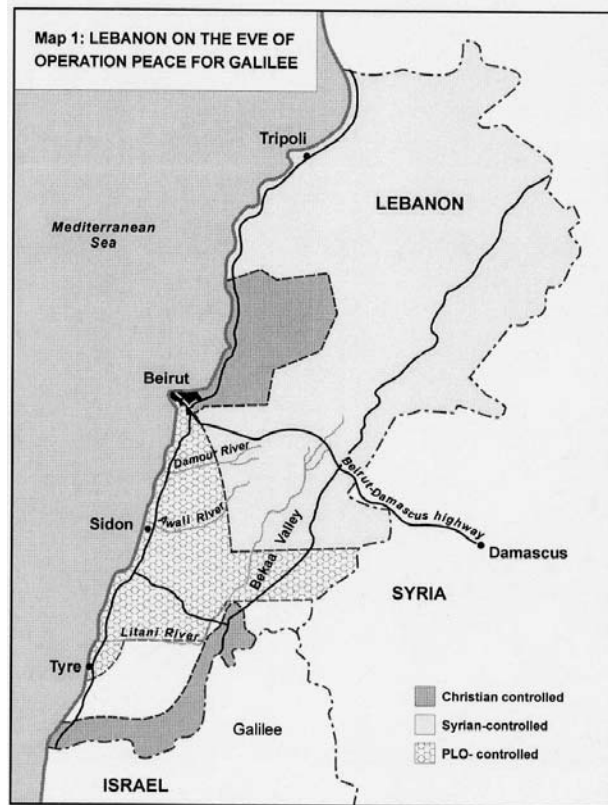


Figure 12. Christian, Syrian Held, and PLO Parts of Lebanon

Source: George W. Gawrych, "The Siege of Beirut," in *Block by Block*, ed. by William G. Robertson, 207 (Ft. Leavenworth, KS: US Army Command and General Staff College, 2003).

The Israeli, Syrian, and Palestinian orders of battle consisted of the following:

The IDF committed 75,000 troops; 1,250 tanks; and 1,500 armored personnel carriers organized into four independent divisions, an amphibious brigade, a two-division corps, and a reserve division. The Lebanese army of 23,000 regulars was a nonplayer, remaining neutral throughout the campaign. The main forces facing the Israelis were 30,000 Syrian troops and 20,000 Palestine fighters. The Syrians deployed mainly in the Bekaa valley and along the Beirut to Damascus highway, sported some 600 tanks (the older T-54s and T-62s) and 300 artillery pieces and antitank guns. (Gawrych 2003, 208)

The Israelis had fought past Arab conflicts at a numerical disadvantage. The Israelis fought this war with a clear numerical superiority. They had 25,000 more infantry, 650

more tanks, and 1500 more APCs. This clear numerical advantage allowed for few problems for the Israelis during initial conventional stages of the operation.

The IDF launched Operation Peace for Galilee on 6 June 1982. Generally the operation did not move as rapidly as Israel had planned. However, the IDF had few problems with the PLO conventional forces. They were either defeated on the battlefield or melted into urban areas. The IDF was on the outskirts of Beirut within one week and besieging Beirut within two (Gawrych 2003, 209).

The IDF never displayed the bold, high tempo maneuver they were known for during past Arab Israeli wars while conducting offensive urban operations in Beirut. The operation was characterized by daily artillery shelling and bombing runs by aircraft as ground forces conservatively seized limited objectives. The Israelis were ultimately successful in Beirut and were able to come to an acceptable political resolution, despite their conservative tactics. The Israelis consented to the evacuation plan for the PLO leadership on 19 August. A United Nations (UN) multi-national force provided for the protection of PLO forces during withdraw out of Beirut on 30 August (Gawrych 2003, 223).

The PLO was forced to surrender after seventy days of siege in Beirut. This was due to a combination of factors. First, the will of the Israeli people maintained support for the war. Second, the IDF were perceived to be winning the war and demonstrated the capability to conduct successful combined arms operations in the urban environment of Beirut. Third, Israel had the support of the United States, which caused the PLO to become diplomatically isolated (Gawrych 2003, 229).

Russian Operations in Grozny, 1994-2000

Russian expansion into the Central Caucasus region began in the late eighteenth century. The Russian's ruled over the Chechens ever since with only two brief periods of independence. The first period of independence was during the Russian Revolution. They were quickly reoccupied in the early 1920s. The second time was during World War II as the Germans invaded Russia. The Chechens treated the Germans as liberators. They were in turn treated as traitors when the Soviet Union reoccupied the area after the German withdraw. The Soviets transported many Chechens to Siberia as a result of this perceived disloyalty. The few survivors were not released until the late 1950s. The relationship between the Russians and Chechens is best illustrated in the below quote from a Chechen after his release:

Regardless of this act, a simmering hatred of Russians remains just below the level of consciousness for many Chechens. A local saying supporting this attitude is that a shot is fired in the Caucasus, but the echo lasts for 100 years. (Thomas 2003, 161)

This relationship of hatred was not considered important as Russian forces entered Grozny.

In 1991, Chechen President Dzhokhar Dudayev's open desire to make a Chechen independent state was drawing attention. In response the Soviet Union's General Secretary, Mikhail Gorbachev, made the following statement in 1991: "The republics should chew off all the sovereignty they can handle" (Thomas 2003, 163). By making concessions to Chechen sovereignty, the Soviets hoped to deter further Chechen disobedience. Unfortunately for the Russians and Chechens, it had different consequences.

Later in 1991 the Chechens conducted a localized revolution and declared themselves independent from Russia. They used Gorbachev's statement as a mandate for the revolution. The Russians attempted to settle the matter through peaceful negotiations but both sides were unwilling to compromise on the matter of independence. The Russians also protested the ongoing violations of the Russian Constitution in Chechnya. Violations included a major increase in criminal activity in Chechnya, Chechens taking Russian hostages demanding independence, and increased deaths among the civilian population. The increased chaos in Chechnya was also limiting the shipments of Chechen reserves of raw materials to Russian industries. As a result of these unresolved tensions the Russian Armed Forces were ordered to resolve the Chechen problem in the fall of 1994 (Thomas 2003, 164).

A comparison of the Russians to the Chechens forces appeared to ensure a quick and decisive Russian victory. The Russian forces had nearly 24,000 men, 19,000 from the armed forces and 4,700 from the Ministry of Internal Affairs (MVD) Internal Forces. This gave them roughly 80 tanks, 208 BMPs, and 182 artillery pieces and mortars. The size of the Chechen forces in Grozny is not known. The Russian estimates portray a Chechen force totaling 10,000 in the city of Grozny. They were armed with up to 80 122-millimeter howitzers, 25 tanks, and 35 BTRs and BMPs. This however, has been disputed and estimations range from 450 to 6,000 fighters. Regardless, the Russians clearly had a numerical and equipment advantage (Thomas 2003, 165).

The Russian plan was to move four columns into Grozny and seize key terrain including the presidential palace, rail stations, highways and bridges (see figure 13). The Russians expected the Chechens to run at the first site of armored columns entering

Grozny. However, the Chechens did not run. They, to the surprise of the Russians, fought extremely well. “In one column alone, 102 out of 120 armored personnel carriers and 20 out of 26 tanks were destroyed by Chechen antitank fire” (Thomas 2003, 172). They were able to achieve this lopsided victory through the use of nonstandard organizations and tactics.

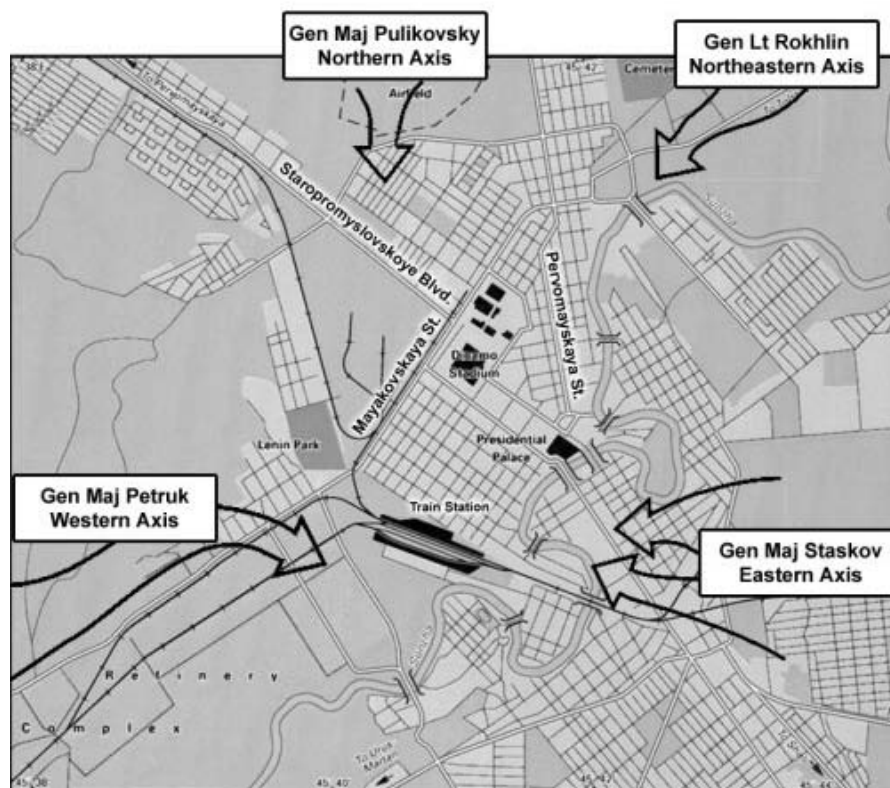


Figure 13. The Four Planned Column Advances on Grozny.

Source: Timothy L. Thomas, “The 31 December 1994-8 February 1995 Battle for Grozny,” in *Block by Block*, ed. by William G. Roberston, 168 (Ft. Leavenworth, KS: US Army Command and General Staff College, 2003).

The success of the Chechens was in part due to the nonstandard squads used by the rebel force. These squads did not have a permanent configuration but rather organized

to fit the needs of the mission. At a minimum they consisted of two men armed with RPGs, two with machine guns and possibly a sniper. These squads were formed into 25-man teams and eventually 75-man teams to conduct company size ambushes. They attacked the front and rear of a column simultaneously in order to isolate all routes leading in and out of ambush site. The Chechens ensured the desired kill zone took advantage of the three-dimensional nature of an urban environment (see figure 14). These basic ambush tactics allowed the Chechens to hold Grozny against the superior Russian forces for over two months (Oliker 2001, 19-20; Thomas 2003, 191).

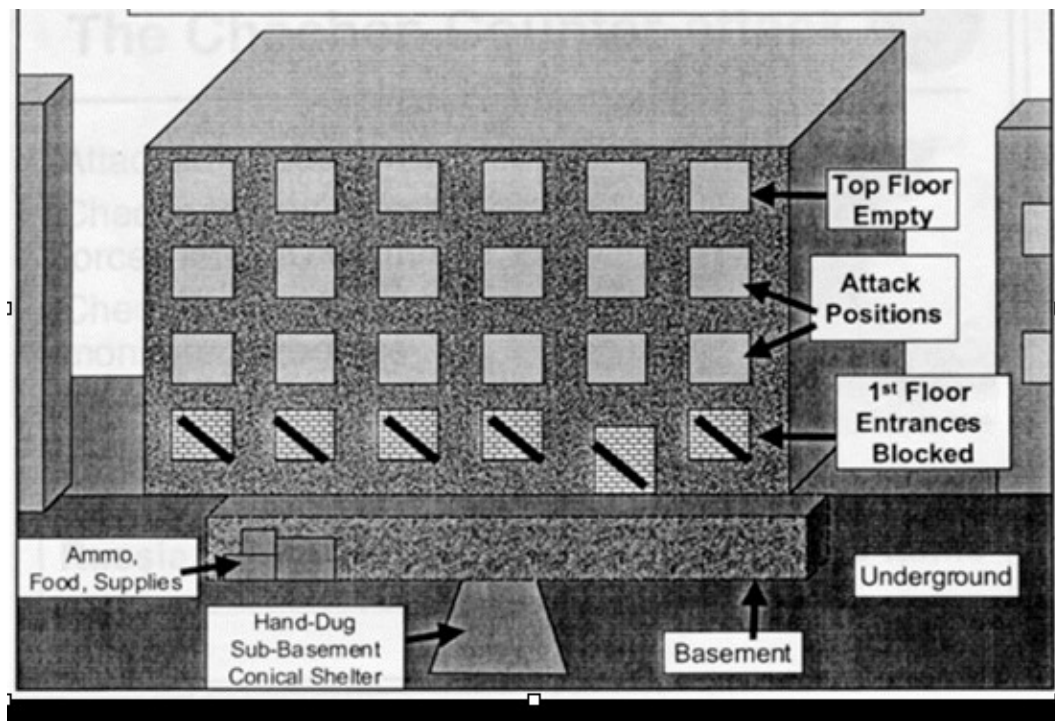


Figure 14. Chechen Three-dimensional Considerations for an Ambush
Source: Combat Studies Institute, Course 359, Urban Operations, Command and General Staff College, Ft. Leavenworth KS, 2005.

It should also be mentioned that Russian forces were poorly trained. Since the fall of the “iron curtain,” the Russian Army was in a state of decay. The huge conscript army did not maintain a professional NCO corps. The ones they had were merely conscripts that had stayed beyond their initial obligation. They were also unable to pay their soldiers on a regular basis let alone conduct individual or collective training. Tank and BMP crews typically had only fired their weapons once and been lucky to train as a complete crew consisting of tank commander, driver, and gunner. General Boris Gromov, commander of the Soviet Union’s 40th Army in Afghanistan described the Russian armed forces best when he said:

The troops taking part in the combat operations had not been prepared for this either morally or physically or professionally. The armed forces are not distinguished today by a high degree of training or personnel and they lack a sufficient quantity of equipment that is in good working order and combat-ready, communication and control facilities, technical and rear support, and so forth. All this condemned the military campaign in Chechnya in advance to big casualties on both sides. (Thomas 2003, 172)

Despite this lack of training the Russians were able to capture Grozny two months after entering the city. They did this through overwhelming indirect and direct fire. However, the Chechens did not surrender or stop fighting. They just moved on to other cities in Chechnya; a tactic they continued throughout the war (Thomas 2003, 172-184).

The Chechens had inflicted enough losses on the Russians to obtain a settled peace. The war ended with the Chechens remaining in the Russian Federation in name only, and the Russians suffering a world embarrassment. After the war, the Russians determined that they had failed in three areas. First, they had lost the information war on the home front and in the world public opinion. Second they had not properly trained the Army for urban operations. Finally, they had not effectively utilized the firepower of

their artillery, tanks, and aircraft. The Russians attempted to fix these problems. But with few resources, the Russians fought the second Chechen war with very little improvement (Oliker 2001, 33-36).

From 1996 to 2000 the Chechen and Russian relations continued to decay. The Chechens were routinely late or missed oil and resource shipments to the Russians. This along with the embarrassment of the first lose prompted the Russians to return to Chechnya in January 2000.

The Russian Army fought the second war with the same equipment and lack of training as in the first war. However, they did improve their use of firepower and control of traffic into and out of the city of Grozny. This caused the Chechens to increase the tactic of “hugging” Russian units. This tactic required employing units within 50 to 100 meters of the Russians. “Hugging” took away the advantage of artillery and aircraft and forced the Russians to fight face to face with the Chechens. Despite the “hugging” tactics the Russians were able to minimize the effects of the Chechen Rebels in Grozny by February through the use of overwhelming firepower and C2. The Russians claimed the rebels lost up to 1,700 personnel in the Grozny fight, this is highly unlikely since thousands of rebels continued to fight in the city after this operation. Like in 1996 the Russians were unable to win a decisive victory despite occupying all of Grozny (Oliker 2001, 74; Thomas 2003, 172-184).

The US Attack into Baghdad, 2003

Armor has continued to play an important part in urban operations to the present day. The two attacks conducted by 2d Brigade, 3d Infantry Division on, 5 and 7 April 2003 into the city of Baghdad are the final discussion of armor in urban operations. To

understand the operations of 2d Brigade, 3d Infantry, it is first necessary to have a basic understanding of US strategic goals, ground maneuver battle plan and execution.

The strategic goals of the United States were embedded in the president's numerous addresses and included, establishing a free, democratic, prosperous and nonthreatening Iraqi state. This translated into three objectives for the invasion of Iraq. First, find and prevent the Iraqis from using weapons of mass destruction. Second, prevent Iraqis from destroying the oil fields. Third, isolate and destroy the leaders and military forces of Iraq. The center of gravity was Baghdad and the removal of Saddam Hussein. The Coalition's plan was for the US Army's V Corps, and the Marine's 1st Marine Expeditionary Force (I MEF), which included the British forces, to attack from Kuwait to Baghdad in the west and east respectively as shown in the figure 15 (Fontenot 2003, 86; Murray and Scales 2003, 90).

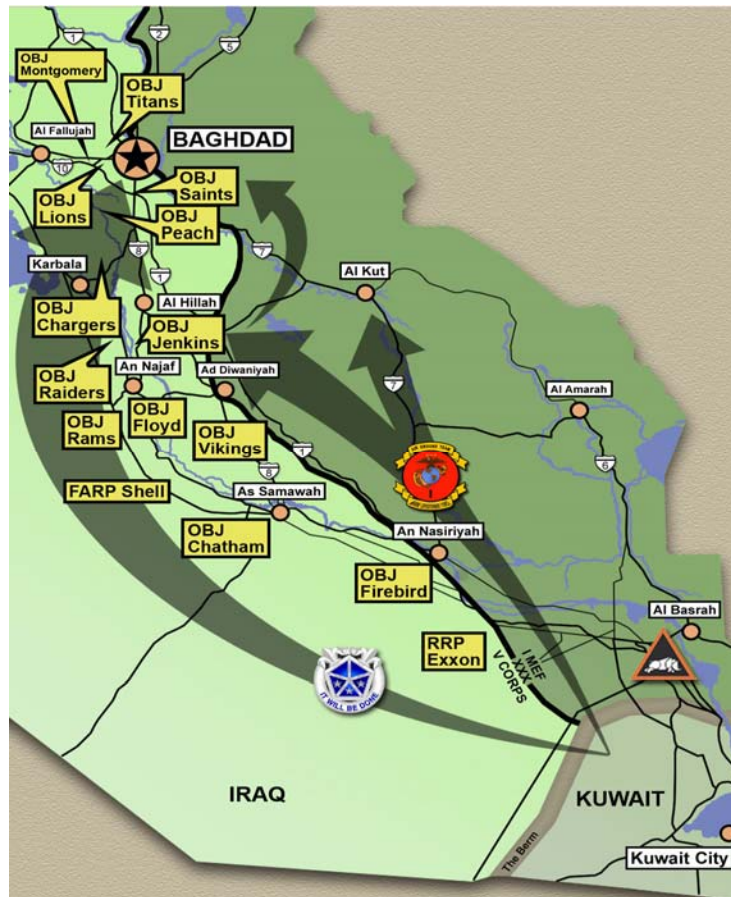


Figure 15. V Corps and I MEF Maneuver to Baghdad

Source: Fontenot, Gregory. 2004. *On Point: The United States Army in Operation Iraqi Freedom*. Ft. Leavenworth, KS: Combat Studies Institute Press.

The plan originally called for an air campaign for 16 days prior to ground forces invading into Iraq. The Coalition's objective of securing the oilfields was a concern if the Iraqis were given 16 days to react. The final plan had a 15-hour time gap between A-day and G-day sequence. The gambit was based off the premise that Saddam Hussein required the oil production from the oilfields in order to maintain his regime. He would therefore wait until the last possible moment to destroy them. The coalition hoped to achieve the element of surprise by attacking with ground forces first (Fontenot 2003, 93; Murray and Scales 2003, 89).

The Iraqis planned on defending in depth from the Kuwait border to Baghdad (see figure 16). Focusing their forces to stop the expected main axis of advance along route 6 along I MEF's sector. The defense consisted of 17 regular army divisions and six Republican Guard Divisions. The Iraqi Forces consisted of 280,000 to 350,000 troops in Regular Army, 50,000 to 80,000 in the Republican Guard, 2,200 tanks, 2,400 APCs, and 4,000 artillery pieces. The coalition assessed that these forces would fight a conventional fight and surrender when sufficient pressure was applied (Fontenot 2003, 99-101).



Figure 16. The Iraqi Disposition of Forces

Source: Fontenot, Gregory. 2004. *On Point: The United States Army in Operation Iraqi Freedom*. Ft. Leavenworth, KS: Combat Studies Institute Press.

Iraqi irregular forces were estimated at 280,000. They consisted of: Saddam Fedayeen, Al Quds, Baath Party Militias; and The Lions of Saddam Youth Organization. In addition to these forces the Iraqis had foreign fighters from other Muslim countries, which were not anticipated by the coalition. The total of these foreign fighters is not known but has been estimated in excess of 20,000 (Fontenot 2003, 101).

On 21 March 2003 the battle plans and the coalition were ready to cross the line of departure, at that point the Iraqis acted. Unmanned Aerial Vehicle (UAV) images showed oil fires with pressure-backed flames reaching from 60 to 310 feet into the air. This was a much different flame than is typically used during routine maintenance burns. Coalition Forces Land Component Command (CFLCC) C-2 determined that the Iraqis were sabotaging the southern oil fields and the abnormal burn off was the proof. This caused the G-day to be moved up by 24 hours. As a result the ground war was conducted two days before formal air operations began. The early start allowed the coalition to secure the southern oil fields with less than expected sabotage to the pumps. It also resulted in a strategic surprise for the coalition when they arrived in Baghdad (Fontenot 2003, 93).

The coalition marched from Kuwait to Baghdad in less than a month. The Iraqi regular forces did not fight or surrender in droves as anticipated. They simply melted into the civilian population. Conversely, the big surprise of the war came from the Iraqi irregular forces. They provided a tenacious fighting spirit by conducting ambushes in urban areas. They never stopped the coalitions advance on Baghdad, despite their fierce fighting abilities.

When I MEF and V Corps arrived on the outskirts of Baghdad intelligence officers at all levels were unable to provide an accurate assessment of the Iraqi's composition and disposition in the city. This drove the CFLCC planners to build a flexible plan that allowed the commanders on the ground to develop the situation. The plan was for I MEF and V Corps to isolate Baghdad from the east and west respectively, then simultaneously conduct raids into the city to destroy the Iraqi regular and irregular forces at critical targets. This would also allow for coalition forces to return to a safe area outside the city after missions.

The 3-7th Cavalry, 3d Infantry Division's division cavalry, seized Baghdad International Airport (BIAP), named Objective LIONS (see figure 17), on 3 April 2003. 1st Brigade 3d Infantry Division reinforced this success the same day by securing BIAP. The 2d Brigade, 3d Infantry Division arrived on the outskirts of Baghdad and was conducting what was called a "turkey shoot" of abandoned Iraqi tanks and APCs in vicinity Objective Saints on 4 April 2003. The fight for Baghdad was all that was left.

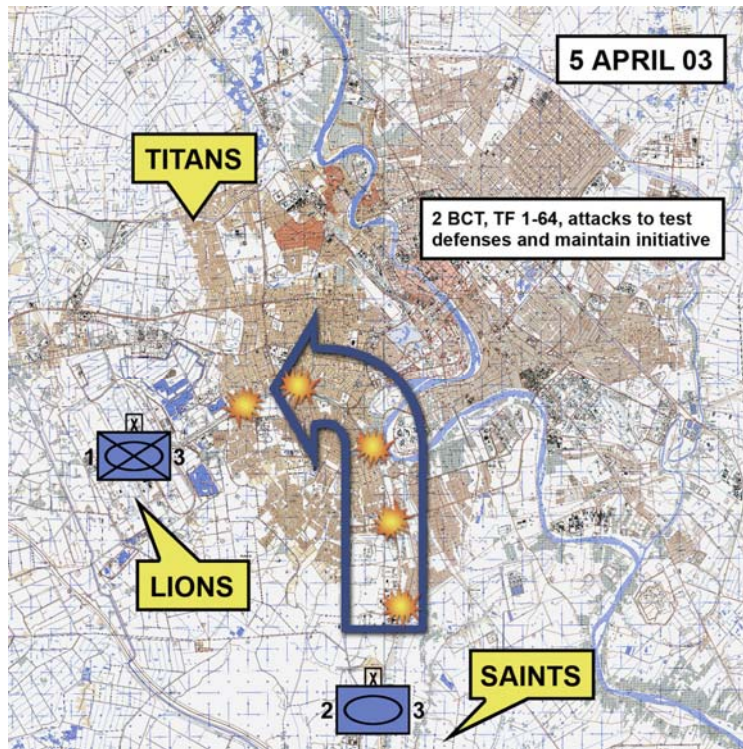


Figure 17. The 5 April Armor Raid

Source: Fontenot, Gregory. 2004. *On Point: The United States Army in Operation Iraqi Freedom*. Ft. Leavenworth, KS: Combat Studies Institute Press.

The intelligence community was unable to provide a clear picture of the Iraqi forces in Baghdad. The lack of actionable intelligence regarding the tactical status of Iraqi forces prompted the need for armor raids in order to determine the nature of defenses and the general situation in the city. The 2d Brigade, 3d Infantry Division, specifically Task Force 1-64 Armor, was tasked to conduct the first armor raid into Baghdad on the night of 4 April 2003.

The vision of urban operations from tank commanders to battalion commanders was that armor forces surround Baghdad and the infantry secure Baghdad block by block. This is best illustrated when Lieutenant Colonel Rick Schwartz, Commander of Task Force 1-64 Armor, and Colonel David Perkins, Commander of the 2d Brigade, 3d

Infantry Division discussed the next days missions on 4 April 2003. Col David Perkins ordered Lieutenant Colonel Rick Schwartz's battalion to attack into Baghdad at first light. Lieutenant Colonel Rick Schwartz replied with, "are you f--king crazy." The brigade's aim was to show that the United States Army had freedom to maneuver as they wished in the Iraqi capital. The mission required TF 1-64 Armor to conduct an armor raid north along highway 8. They would maneuver along Highway 8 until linking up with 1st Brigade, 3d Infantry Division at BIAP (Zucchini 2003, 342).

TF 1-64 Armor task organized prior to deployment back at Fort Stewart Georgia. They received C/3-15 Infantry and gave up an armor company. They were a tank heavy task force with two tank companies each having 14 tanks, one mechanized infantry company consisting of 14 BFVs and three platoons of dismounted infantry. They also received D Company, 10th Battalion Engineers, an Air Force tactical control party, a counterintelligence team, and a liaison party from the marine air and naval gunfire liaison company (Fontenot 2003, 341).

The battalion crossed the line of departure at 0630 on the 5th of April 2003. They moved up Highway 8 in a staggered column moving at speeds from 35 to 45 kilometers an hour. The order of march for the armor raid was A/1-64 Armor, C/1-64 Armor followed by C/3-15 Infantry and the one engineer platoon followed the lead company. The route of march took them just short of downtown Baghdad from Objective Saints to BIAP as shown in figure 17. The purpose of the armor raid is best shown in Lieutenant Colonel Schwartz, the commander of Task Force 1-64 Armor, stated mission guidance:

Schwartz concluded that the mission did not require his vulnerable combat trains. Specifically, the mission required Task Force 1-64 Armor to conduct a movement

to contact north along Highway 8 to determine the enemy's disposition, strength, and will to fight. (Fontenot 2003, 342)

All hatches on M1A1s, BFVs and M113s were open with soldiers firing small arms at enemy targets. Once they entered the city they received constant enemy small arms fire and RPGs. A tank commander's tank took either an RPG or recoilless rifle hit in the right rear only 20 minutes into the armored raid. The tank went into shut down mode and the engine compartment began to burn (Fontenot 2003, 342-343).

The initial reaction of the crew and the battalion was to save the tank. 20 minutes had gone by as they attempted to put out the fire. They had used all the halon bottles on the tank, a platoon of fire extinguishers, and most of the water jugs from the tank company team. The whole time the battalion was stopped on the side of the road along Highway 8. Also during this time the enemy increased its attacks as they dropped off truckloads of Special Republican Guard (SRP) and paramilitary units. Fortunately the attacks were not conducted as a synchronized and organized unit. This allowed Task Force 1-64 Armor to destroy them with a constant stream of coax, main gun, 25 millimeter, grenades, and small arms fire. Colonel Perkins finally made the decision to abandon the tank and move on to BIAP.

The mission suffered one more mobility kill of a BFV and a killed in action (KIA) to a M1A1 tank commander. In these last incidents the battalion demonstrated that it had learned from the earlier long halts. This time they quickly moved up a tank platoon to provide security as the wounded, the one KIA and BFV were recovered. Within minutes the battalion was moving up Highway 8 again. The battalion was within 3,000 meters of BIAP when the lead M1A1 noticed an obstacle of concrete barriers across the Highway. The tank breached the barrier by lowering his plow and rammed the barrier. This caused

the tank to tear through the barrier and become momentarily airborne. It also destroyed the barrier to dust and rocks. The rest of the armor continued to BIAP (Fontenot 2003, 343-344).

Once Task Force 1-64 Armor reached BIAP they conducted a friendly passage of lines with 1st Brigade, 3d Infantry Division. All the armored vehicles had received multiple RPG and small arms hits. Most of the soldier's equipment that had been stored on the outside of the vehicles were burning. Also, some of the valuable vehicle tools stored in sponson boxes had also been destroyed. Over all, however, Task Force 1-64 Armor had accomplished their mission.

Colonel Perkins was satisfied with the tactical results of the mission. He was not satisfied with the strategic results of the 5 April 2003 armor raid. The Brigade had left a tank behind and the enemy was telling the media that the Americans had been defeated and were in retreat. The next mission had to make a different statement. Colonel Perkins, developed conditions to go downtown into Baghdad and stay. The conditions included 2d Brigade, 3d Infantry Division successfully fighting its way into Baghdad; seizing defensible, important, and symbolic terrain in Baghdad; opening and maintaining a LOC into Baghdad; and resupplying sufficiently to remain overnight. These conditions were issued to the task forces on 6 April 2003 (Fontenot 2003, 347-349).

The next armor raid occurred on 7 April 2003. The plan was to push rapidly into the center of Baghdad with two heavy armored task forces consisting of 70 M1A1s and 60 BFVs. An infantry task force minus would secure the LOC. They would fight their way into the heart of Baghdad and stay this time. Task Force 1-64 Armor led the way and secured the Tomb of the Unknowns named Objective Diane (figure 18). Task Force 4-64

Armor followed and seized Saddam's palaces, named Objective Woody, along the Tigris River east of Objective Diane. Task Force 3-15 Infantry was given the unglamorous mission of securing the LOC. Three overpasses were determined as key terrain to maintain the LOC. A company would seize each of the overpasses named Objectives Moe, Larry and Curley (see figure 18). Task Force 3-15 Infantry was to accomplish this mission without one of its company headquarters and two of its platoons. They had been attached to Task Forces 1-64 Armor and 4-64 Armor respectively. This left them short one company. (Murray and Scales 2003, 212).

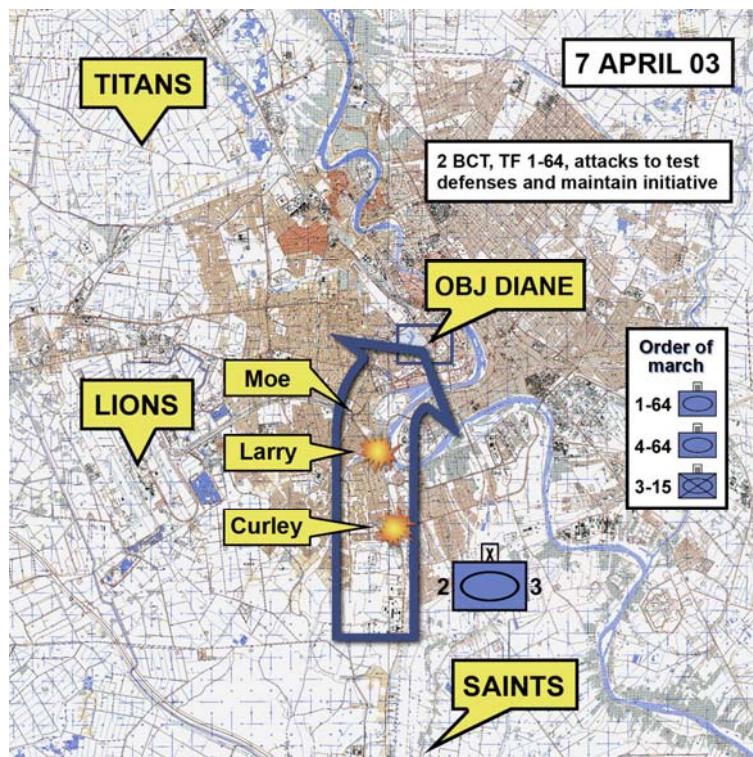


Figure 18. The 7 April Armor Raid

Source: Fontenot, Gregory. 2004. *On Point: The United States Army in Operation Iraqi Freedom*. Ft. Leavenworth, KS: Combat Studies Institute Press.

Task Force 3-15 Infantry used company teams A/3-15 and B/4-64 to secure and hold Objectives Moe and Larry respectively. The task force formed an ad hoc company consisting of the remaining platoon from B/3-15 Infantry, the mortar platoon, an engineer platoon, the medical platoon, the battalion command sergeant major, and the battalion fire support officer. Captain Hornbuckle, the battalion's assistant S3, led the ad hoc company. They had the mission to hold Objective Curley.

The task forces crossed the line of departure and almost immediately started engaging the enemy. The enemy had also learned from the 5 April armor raid and had set up numerous obstacles covered by direct fire weapons. They had also scored a lucky hit with a rocket on the brigade tactical operation center (TOC). The attack on the Brigade TOC killed three soldiers, and two embedded reporters, wounded 17 others and destroyed or damaged 22 vehicles. This happened at the most critical point in the battle as 2d Brigade was entering the city. However, it did not affect the success of seizing and holding Objectives Diane and Woody (Fontenot 2003, 355).

The decisive operation that day was not downtown Baghdad where 2d Brigade occupied the presidential palace and its parks. Rather, it was the fight for the three Objectives Moe, Curley, and Larry. Task Force 3-15 Infantry had two company teams occupied on Moe and Larry with the ad hoc company at Curley. Throughout the day and night they received constant heavy small arms, RPGs, and mortar attacks from a fanatical and persistent enemy. The fire was so intense on Objective Curly that Lieutenant Colonel Twitty, commander Task Force 3-15 Infantry, reinforced Curley with a B/1-3 Infantry from Objective Saints at 1600 on 7 April 2003. They conducted a relief in place and the LOC was under relative control. This bold move left the Iraqis with no options. They

continued to attack throughout the night on the overpasses and in Baghdad. But the securing of the LOC ensured the resupplying of the task forces and marked the beginning of the end of the Baghdad offensive urban operation (Fontenot 2003, 363-370; Murray and Scales 2003, 212-216).

The use of armor is critical for success in offensive urban operations. This chapter reviewed four historical examples of armor in offensive urban operations: the battle of Aachen, 1944; the siege of Beirut, 1982; Russian operations in Grozny, 1994-2000; and the US attack into Baghdad, 2003. All of these battles highlight the importance of employing armor correctly. Each case study represents valuable armor lessons learned. These lessons learned are analyzed in chapter 4.

CHAPTER 4

ANALYSIS

The purpose of this chapter is to analyze lessons learned regarding armor in offensive urban operations. The lessons learned are derived from one or multiple historical case studies of, Aachen, Beirut, Grozny, and Baghdad, which have examples supporting the lessons learned? Each lesson learned will be evaluated in relation to US Army tactical doctrine. This evaluation will determine if US Army tactical doctrine covers the lesson learned and does it cover it in sufficient depth.

Lessons Learned

US Army combat arms units have standardized load plans in their tactical standard operating procedures (TACSOP). There are many reasons why this standardization is essential to successful combat missions. Standardization allows the chain of command to quickly conduct precombat inspections (PCI) and precombat checks (PCC). It allows leaders to efficiently switch vehicles during an operation. It also empowers every soldier with knowledge of precise locations of mission essential equipment during combat operations where time is critical.

The leadership of units must consider METT-TC prior to missions and determine if changes are required in the TACSOP. The leadership of Task Force 1-64 Armor during the attack into Baghdad did not have any indicators that a change to the standardized load plans would be necessary prior to the 5 April 2003 armor raid. However, they quickly learned that their load plans did not support operations in an offensive urban environment.

Task Force 1-64 Armor's crews secured their personal gear to the outside of their vehicles prior to the armor raid into Baghdad on 5 April 2003 as they had done since the LD in Kuwait on 20 March 2003. The M1 series of tanks and BFVs also secured gear to the bustle racks. Their mission was to conduct an armor raid from Objective Saints along highway 8 and linkup up with 1st Brigade, 3d Infantry Division at Objective Lions (see figure 17). They achieved their objective but in the process most vehicles received multiple RPG and small arms hits from the enemy. Due to the high concentration of RPG and small arms fire, most of the bags hooked on the outside of the armor were either destroyed or heavily damaged and burning. "In addition to their personal gear, they had lost their sponson boxes, the big metal box that held all the tools needed to maintain and repair the tank" (Zucchini 2003, 62). The vehicle load plans resulted in significant loss and damage to valuable equipment.

US Army tactical doctrine does not specify what the load plan will be for units in any of the spectrum of operations. Rather the doctrine, as seen in FM 3-90.1 only stresses the importance of following the units' standard operating procedures for load plans:

Upload vehicles in accordance with unit SOP. The standardization of load plans allows the commander, XO, 1SG, or subordinate leader to quickly check accountability of equipment. It also ensures standard locations of equipment in each vehicle; this can be an important advantage when a leader is forced to switch to a different vehicle during an operation. (2002, 3-46)

The platoon doctrine, FM 3-20.15, *Tank Platoon*, and FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*, also does not provide an example of a proper load plan. US Army tactical doctrine does not address the impact of urban operations on exposed personal equipment and vehicle equipment in sponson boxes.

Urban areas cause armor to have increased areas of dead space as discussed in detail in chapter 2 during the doctrinal review. In order to cover this dead space 2d Brigade, 3d Infantry Division conducted the 5 and 7 April 2003 armor raids with all hatches open and crews firing crew served and personal weapons. This meant tank commanders and loaders fired their .50 caliber and loaders M240 machine guns, respectively. It was also not uncommon for tank crews to fire their M-4s and throw grenades from the hatch as described by Zucchini:

At one point, shortly after Hubbard's team had set up on the interchange just after first light, he actually had to fight off enemy dismounts who were trying to close in on his tank on foot from the west. He had never expected them to get so close. Hubbard opened up with his .50-caliber machine gun while his gunner worked the coax, but the dismounts kept coming. Finally his loader had to toss grenades from the hatch to drive them back. (2003, 233)

This tactic is not covered in doctrine. And was apparently required for survival of the armored crews.

This tactic was not limited to only the tank crews. All the armor involved in the Baghdad armor raids fought with open hatches to include the BFVs, and M113s. Even the brigade commander, Colonel David Perkins, found it necessary to fire his personal weapon during the 5 April 2003 armor raid. His M113 was integrated into Task Force 1-64 Armor and was behind a tank and in front of the Brigades S-2's M113 when the following happened:

In Perkins's command hatch, there were no mounted weapons. He was the brigade commander, responsible for four thousand men. He wasn't supposed to be firing weapons. He was supposed to be commanding and controlling the battle. All he had was a 9mm Beretta strapped to his leg. He hadn't fired it the entire war. He thought: Nobody is engaging this guy! He pulled out the pistol, locked his wrist, and took aim. He squeezed off several rounds. The soldier went down hard. (Zucchini 2003, 38)

The commander must be allowed to command and control his unit. This cannot be accomplished if the commander is firing his personal weapon for survival.

The Russian experience in Chechnya also leads to the fact that hatches closed in an urban environment will lead to disaster. Due to the effective Chechen ambush tactics discussed in chapter 3, the Russians maintained hatches closed in their vehicles that lead to the following:

Entire tank columns were effectively paralyzed by the immobilization of the lead and trail vehicles. Russian infantry troops unwittingly collaborated in their destruction by remaining within their APCs, mistakenly believing they were safer inside the armored vehicles than out. Russian soldiers fell by the hundreds. (Oliker 2001, 14)

The Russian crews were unable to cover their dead space while hatches were closed. And the Chechens took full advantage by destroying the armor from positions located in the armor dead space.

US Army tactical doctrine on offensive urban operations is clear that armor has different dead space in an urban environment as opposed to open environment. This has been reviewed in detail in Chapter 2. It also recommends closing hatches during short counts, chemical attacks, nuclear attacks, and while observing artillery. FM 3-20.15, *Tank Platoon*, recommends having open hatches only for safety considerations:

Tank crewmen are often unable to see infantry soldiers operating close to their vehicle. This limitation is worse during limited visibility and when the hatches are closed; in these conditions, the crew is focused on the enemy or on potential enemy locations rather than any nearby infantrymen. (2001, C-8)

However, US Army tactical doctrine does not dictate or discuss if hatches should be open or closed in an urban environment.

The military operation of a raid is a basic mission. It is generally seen as a light infantry mission. However, armor raids were conducted in Aachen, Beirut, and Baghdad.

These raids were all conducted at different levels of command and had different degrees of success. This section analyzes those raids.

The armor raids at the battle of Aachen were organized at the battalion level and C2 at the company and platoon level. These raids were generally focused against German platoon size and below objectives, and were followed with light infantry to seize the objective. The 3-33d tank battalion in particular achieved noted success during the encirclement of Aachen from 17 to 24 September 1944:

This tank column, commanded by Lieutenant Colonel Sam Hogan, a Texan, was called Task Force Hogan after its CO. Sam Hogan had the dashing temperament of a Civil War cavalry commander. He was a twentieth century version of Jeb Stuart, Nathan B. Forrest, and George Custer rolled into one. Daring but never reckless, Hogan sent tanks in flashing raids on the German positions. The enemy never knew where the American vehicles might next appear, either to blast a roadblock or to shoot up a machine-gun position. What we did was keep the Krauts off balance. (Werstein 1962, 64)

These armor raids were not used on a large scale during the battle of Aachen. However, they were effective at keeping the Germans off balance.

The IDF used armor to conduct raids during the siege of Beirut. There were several reasons for this. The IDF was a tank centric army and was organized and equipped in armor and mechanized infantry task forces. Second, the political atmosphere in Israel would not support a war with high casualties. Armor raids provided extra protection for their soldiers and reduced casualties. Third, the tank provided quick mobile firepower to the ground commander and was an effective tool in urban operations.

The armor raids into Baghdad were undoubtedly successful. Task Force 1-64 Armor had a relatively small force. “The task force’s main combat power consisted of several hundred soldiers aboard 29 tanks, 14 BFVs, and other combat vehicles, including

M113s” (Fontenot 2003, 342). In little more than three hours they inflicted heavy damage to the Iraqis as described by Zucchini:

The Desert Rogues battalion had just killed between eight hundred and a thousand enemy soldiers. They had destroyed whole networks of bunkers on both sides of the highway. They had taken out thirty to forty vehicles and unknown numbers of artillery pieces and antiaircraft batteries. (2003, 65)

But more important than the collateral damage, The US Army had proven they had freedom of maneuver in the Iraqi capital of Baghdad and that armor could successfully execute offensive operations in an urban environment.

FM 3-90.1 (FM 71-1), *Tank and Mechanized Infantry Company Team*, and FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*, discusses the purpose of raids and provides planning guidance to conduct raids. FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*, also mentions the possibility of a raid being conducted mounted as described here: “The platoon can conduct an independent raid (mounted or dismounted) in support of the task force or higher headquarters operation or it can participate as part of the company team in a series of raids.” (2002, 4-32). FM 3-20.15, *Tank Platoon*, does not mention raid as an operation. And the doctrine does not provide guidance for armor to conduct raids in an urban environment.

The LOC was never cut during the battles of Aachen, Beirut, Grozny, or Baghdad. The vulnerability of the LOC was not even in question during Aachen. This is due to the leadership conducting prior urban operations planning. Lieutenant Colonel D. Daniel, the battalion commander of 2/26 Infantry, had anticipated the special logistical needs for increased ammunition during offensive urban operations. In order to satisfy the anticipated need he developed a plan: “Daniel improvised a mobile battalion ammunition

dump that could keep pace with the advancing companies” (Gabel 2003, 75). Though it was a simply plan and execution, it was effective.

Heavy forces have a greater need for the protection of the LOC in urban operations. The attack into Baghdad demonstrated the vulnerability of LOCs through urban areas, even though it too was never cut. During the 7 April 2003 armor raid most crews were on the verge of running out of both ammunition and fuel. This was due to three critical factors. The high rate of fuel consumed by the M1 series of tanks, situational awareness of organic support elements, and not adequately resourcing the protection of the LOC.

First, the high rate of fuel consumption of the M1 series of tanks is due to the fuel inefficient turbine engine. The planning considerations for fuel are best shown from concerns expressed by Colonel Davis Perkins Commander of 2d Brigade, 3d Infantry Division:

While Perkins was confident that the two tank battalions could hold their ground in side the city, he knew they could not survive without a steady supply of fuel and ammunition. Each tank would suck down 56 gallons of JP8 fuel and hour just rolling up Highway 8 and at least 30 gallons an hour maneuvering inside the city. With a 504-gallon capacity, the tanks would probably need refueling by the end of the day. And based on the Rogue’s experience on the thunder run, the tank and Bradley crews could expect to fire off most of their ammunition loads as they blasted their way into the city and fought to hold their ground. (Zucchini 2003, 76)

The command had a clear vision of what was necessary in terms of logistics in order to accomplish the mission.

Second, situational awareness of support platoons is critical during urban operations due to the M1A1’s fuel inefficiency and need for high volumes of ammunition. The support platoon of Task Force 1-64 Armor was unable to maintain the

same situational awareness as the company teams due to a lack of C2 equipment. Unlike the combat arms units they did not have Force XXI Battle Command Brigade and Below (FBCB2). They had only two radios and were listening to the battalion's main effort in downtown Baghdad. Zucchini briefly describes the support platoon leader for Task Force 1-64 Armor, cargo and assets available prior to delivering them to the critically short Task Force in downtown Baghdad on 7 April 2003:

There were twenty-one vehicles in Polsgrove's convoy. With only two radios . . . They were hauling 110 tons of tank, Bradley, mortar and small arms ammunition and twenty thousand gallons of highly combustible JP8 fuel. One of their trailers was loaded with engineers' mine-breaching device, a twisted sausage like link of powerful C-4 explosive charges. And they had no armor to protect them-no tanks, no Bradley's. (2003, 204)

The misguided belief was that once armor rolled through an area the logistical packages could follow in support without organic armor.

Third, the LOC was not adequately secured during the armor raid. Task Force 3-15 Infantry was tasked with securing the LOC without one of its company headquarters and two of its platoons. They had been attached to the main effort going to downtown Baghdad on the armor raid. Securing the LOC was considered a shaping operation and it was believed a company team minus could easily handle the operation. It quickly became the decisive operation as the Iraqis increased and focused their attacks along the LOC. Disaster, however, was avoided by the eventual arrival of support platoons.

US Army tactical doctrine clearly states that armored forces require high expenditures of ammunition and fuel. FM 3-90.1 (FM 71-1), *Tank and Mechanized Infantry Company Team*, dedicates the following passage to ammunition and fuel in the urban environment:

Company team conducting UO use large quantities of ammunition because of short ranges, limited visibility, briefly exposed targets, constant engagements, and requirements for suppression. AT4s, rifle and machine gun ammunition, high-explosive antitank (HEAT) and Canister tank rounds, 40-mm grenades, hand grenades, and explosives are high-usage. The platoon requires large amounts of Class III (Bulk and Package) during extended operations. It can operate for eight hours without refueling. (2002, 2-4)

However, doctrine does not provide planning guidance for protecting a LOC.

The complex terrain of urban environments can transform the otherwise routine task of land navigation into a complex task. The inability to conduct land navigation in an urban environment can cause a mission to fail. The leadership took steps to reduce this friction during the battles of Aachen, Beirut, and Baghdad.

Lieutenant Colonel D. Daniel, the battalion commander of 2/26 Infantry fought, a traditional linear fight during the battle of Aachen. He had a tactical front and a rear but still the fear of losing a unit in the complex urban terrain concerned him. In order to minimize this friction he incorporated the following control measures:

Using the detailed maps at his disposal, Daniel set up a "measles system" in which all intersections and prominent buildings were numbered to speed up communication and ensure coordination among the battalion's elements. Daniel further ordered that constant, positive liaison be maintained between adjacent units at all times. As units advanced, Daniel mandated stops at designated checkpoints for the reestablishment of contact along the line. Offensive operations halted at nightfall along designated phase lines (major streets) to avoid the confusion and loss of observation inherent in night combat. (Gabel 2003, 75)

The net result of Lieutenant Colonel D. Daniel's prior planning and execution reduced fratricide, increased effects of direct fire weapons, and ultimate victory over numerically superior defending Germans at Aachen.

The IDF logical solution to the complex terrain and land navigation was leadership. "IDF doctrine puts emphasis on leadership, daring, and initiative" (Gabriel

1984, 195). The IDF also positioned their leadership in lead vehicles to ensure units did not get lost or misrouted as describe by Gawrych:

Generally, when employed in an attack, tanks fought under infantry command. The infantry commander was expected to be in the lead tank where he could focus on navigation while the crew fought the battle. (2003, 214)

The IDF was able to minimize the friction of land navigation in an urban environment and increased the possibility of mission success by utilizing their leadership to lead from the front.

Mounted land navigation almost caused the first armor raid on 5 April 2003 to fail. Maps can be wrong even in a world of satellite imagery and digital maps. And that is what happened to the platoon leader of the lead tank for Task Force 1-64 Armor.

He was halfway down when he noticed that the exit had three ramps, not two. Dammit, he should have taken the middle one. Now he was heading east into downtown Baghdad, toward Saddam Hussein's palace complex and government center, the opposite direction from the airport, and the entire column was following him. Everybody was going the wrong way. (Zucchini 2003, 36)

Task Force 1-64 Armor had to stop for precious minutes while the lead platoon created a by pass due to this miss direction. Though the mission ultimately was a success, it was definitely put in undue risk as the task force turned around.

US Army tactical doctrine has numerous citations expressing the importance of conducting the planning and control measures to ensure land navigation is accurate. Also, all of the doctrine assigns land navigation as a leader task and responsibility. Below is just one example from FM 3-90.1 (FM 71-1), *Tank and Mechanized Infantry Company*

Team:

The commander and subordinate leaders must pay particular attention to routes, formations, and navigational aids. They must conduct a detailed map reconnaissance to identify locations where the unit could become disoriented. This reconnaissance must also focus on finding rough or restricted terrain that will

be more difficult to negotiate in limited visibility. Such terrain may require a change in formation or movement technique or employment of dismounted ground guides. If the company team commander is able to, he may conduct a route reconnaissance to supplement his map reconnaissance. (2002, D-5)

US Army tactical doctrine is not deficient in providing depth and breadth of planning and execution guidance for land navigation. However, it does not provide specific guidance on training or execution of land navigation in an urban environment.

The battles of Aachen, Beirut, and Baghdad are all examples of the positive effects of utilizing a combined arms task organization. In each of these historical cases the task organization was down to company team level. This provided the ground commanders an ability to maximize the strengths and minimize the vulnerabilities of all the units' capabilities. And in each of these history case studies the units fought as combined arms teams.

Lieutenant Colonel D. Daniel, the battalion commander of 2/26 Infantry realized that Colonel Gerhard Wilck, garrison commander of German Forces in Aachen, had a numerical and home court advantage. He needed to maximize his firepower. "Bottom-line Lieutenant Colonel D. Daniel organized each rifle company into a task force" (Gabel 2003, 75). The specifics of the task organization are outlined in chapter 3 under subheading, the battle of Aachen 1944.

The Israeli's doctrine preached combined arms. Their doctrine is best described below:

Doctrine emphasized the use of combined arms in city fighting. Tank units were trained to task organize with other combat arms for battle. Thus, Israeli UO doctrine stressed flexibility in force design. (Gawrych, 2003, 214)

This doctrine created a mutual cooperation between tanks, infantry, artillery and other forces. But most important their doctrine stressed combined arms in offensive urban operations.

The Russian experience in Grozny supports the required use of combined arms in urban operations. During the first war in Grozny the Russian plan of attack was to drive columns of unsupported armor into Grozny to seize key terrain. These columns were put together ad hoc and routinely minutes prior to conducting offensive urban operations. The most illustrative example had one column alone losing 102 out of 120 armored personnel carriers and 20 out of 26 tank. Though these columns had armor they were not combined arms teams. This is further explained in the training section of this chapter (Thomas 2003, 172).

US combat arms units generally fight as combined arms teams. Task Force 1-64 Armor was no exception on the 5 and 7 April 2003 armor raids. The specifics of their task organization are described in chapter 3. The armor raids were conducted with the mutual support of tanks, infantry, engineers, and artillery. The US Army had taken the mutual cooperation to a graduate level as seen here in an artillery example supporting the armor raid on 7 April 2003:

It was Gantt's, commander of First Battalion, Ninth Field Artillery Regiment, responsibility to make sure the Paladins laid down accurate fire at several interchanges along Highway 8 precisely ten minutes before the armored column arrived at each overpass. It was a complex, delicate mission requiring exquisite timing and coordination. It was the first time during the war that the brigade had attempted to combine artillery with a fast moving armored raid. (Zucchini 2003, 103)

It is clear that the US Army fought exclusively as combined arms teams during OIF and reaped the synergistic effects.

US Army tactical doctrine stresses the importance of combined arms during urban operations as highlighted below from FM 3-90.1 (FM 71-1), *Tank and Mechanized*

Infantry Company Team:

The company team is an organization whose effectiveness increases with synergy of its subordinate elements, including tanks, BFVs, infantry, engineers, and support elements. These components have a broad array of capabilities; individually, however, they also have a number of vulnerabilities. Effective application of the company team as a combined arms force can capitalize on the strengths of the team's elements while minimizing their respective weaknesses. (2002, 2-1)

In addition doctrine clearly discusses creating formations of combined arms teams at the lowest levels. FM 3-90.1 (FM 71-1), *Tank and Mechanized Infantry Company Team*, describes it best:

Formation of combined arms teams at the lowest levels. Whereas task organization normally is done no lower than platoon level, UO may require task organization of squads and sections. The company team may face a number of unusual organizational options, such as a tank section working with an infantry platoon. (2002, 7-15)

Doctrine emphasizes and provides guidance for company and platoons to maximize the synergy from combined arms. It also provides adequate depth and breadth on combined arms.

Armored forces did not conduct offensive urban operations training prior to attacking in the battles of Aachen, Grozny, or Baghdad. The Israelis, however, did limited training prior to the siege of Beirut. The IDF had made minor changes to doctrine, as discussed in chapter 3, and increased training for active army units. However, the majority of IDF units did not have urban operations training. The lack of urban operations training had different results in each historical case (Gawrych 2003, 214).

“The force that moved on Grozny was not adequately trained or prepared for the urban battlefield or for any other” (Oliker 2001, 14). The Russian army consisted of conscripts that received little to no training prior to arriving at Grozny. “It had not held a divisional or regimental field exercise since 1992” (Oliker 2001, 14) The old Commander of the Soviet Union’s 40th Army in Afghanistan said it best when he describe Russia’s armed forces:

The troops taking part in the combat operations had not been prepared for this either morally or physically or professionally. The armed forces are not distinguished today by a high degree of training or personnel and they lack a sufficient quantity of equipment that is in good working order and combat-ready, communication and control facilities, technical and rear support, and so forth. All this condemned the military campaign in Chechnya in advance to big casualties on both sides. (Thomas 2003, 172)

Senior, Russian officers were not the only ones with a strong opinion towards the lack of training. Lieutenant Colonel Alexksandr Labzenko, commander of a division surface-to-air missile platoon, noted after the Russian defeat in Grozny:

They were not trained to fight in cities and an enormous amount of armored equipment, thoughtlessly left in narrow streets without any cover, was not protected by the infantry. . . .There is a lack of even basic cooperation between different subunits and their commanders and subordinates. (Thomas 2003, 172)

It is clear that the Russian military was not trained to fight let alone trained to fight in a complex urban environment.

The 2d brigade, 3d Infantry Division deployed in September of 2002 to Kuwait. “The soldiers immediately began hard training” (Fontenot 2003, 342). They trained hard on maneuver and gunnery in preparation for open desert warfare. They did not train for urban operations. This was due to the US military strategy. “It was to surround Baghdad with tanks while airborne units cleared the capital block by block in a steady, constricting siege” (Zucchini 2003, 3). The gunnery training was conducted at ranges of 800-3,000

meters on Udairi range complex in Kuwait. The engagements had stressed multiple armored targets with few machine gun engagements for the gunner and only one engagement for the loader and tank commander respectively. The training did not necessarily support the armor on armor engagements typically as close as 1,000 meters and the dismount engagements at 50-150 meters. Despite not specifically training offensive urban operations, 2d Brigade, 3d Infantry Division did have one advantage. “They had been at war for two weeks and in the field for more than six months . . . they were practiced, and had developed drills for nearly every contingency” (Fontenot 2003, 342).

US Army tactical doctrine stresses the importance of training for offensive urban operations. A example of this is found in FM 3-90.1 (FM 71-1), *Tank and Mechanized Infantry Company Team*:

Urban operations require centralized planning and decentralized execution. Therefore, effective vertical and horizontal communications are critical. Company team leaders must trust their subordinates' initiative and skill that can only occur through training. The state of a unit's training and cohesion are vital, decisive factors in the execution of operations in urban areas. (2002, 7-2)

Thus the problem for the US Army was not doctrine. The doctrine clearly stresses the importance of training for urban operations. Yet there is little guidance in US Army tactical doctrine on what and how to train to prepare armor to conduct operations in offensive urban operations.

Conclusion

The lessons learned identified in this chapter, load plans, hatch positions, armor raids, lines of communication, land navigation, combined arms, and training, represent key tactical considerations during armor offensive urban operations. Of these seven

lessons learned only combined arms is discussed in US Army tactical doctrine adequately for the successful employment of armor in offensive urban operations. Though mentioned in US Army tactical doctrine, armor raids, land navigation, and training are not described or discussed in-depth. Load plans, hatch positions, and lines of communication are not discussed for offensive urban operations in any US Army tactical doctrine.

Recommendations for these discussed deficiencies in US Army tactical doctrine are provided in chapter 5.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This study has determined that current US Army tactical doctrine is adequate for the successful employment of armor in offensive urban operations. However, recommendations are provided to improve this doctrine. This Chapter will accomplish three tasks. First, it will make recommendations relative to the lessons learned from chapter 4. Second, it will suggest recommendations of a general nature not related directly to lessons learned. Finally, the chapter ends with conclusions regarding the tactical employment of armor in urban operations.

Specific Recommendations

The raid on Baghdad on 5 April 2003 showed that improperly stowed gear can affect armor in offensive urban operations. Therefore, there is a need for commanders to consider load plans prior to conducting offensive urban operations. US Army tactical doctrine does not address load plans for urban operations and thus requires adjustment. 2d Brigade, 3d Infantry Division's solution was to store the personal gear on trucks from the battalion support platoon to be brought up later during refueling and arming. This was very effective for this specific mission, but this solution will not always work. It does not solve the vulnerability of equipment stored outside of the tank on bustle racks and in the sponson boxes. It is also likely that a battalion support platoon will not be able to store personal equipment long term. They are routinely loaded with ammunition, barrier material, repair parts, or any other number of mission essential equipment. Second, the sponson boxes and bustle racks should be reinforced to sustain no less than a RPG direct hit. This requires the bustle rack to also be fitted with a protective cover. Finally, the

doctrine should provide comprehensive load plan diagrams as a starting point for each mission within the full spectrum of operations.

Hatch position has also been shown to significantly affect the performance of armor in offensive urban operations. There are two parts to the recommendations for hatches on armored vehicles. The first is a recommendation that considers current vehicle designs. The second is a recommendation to improve current armored vehicle designs to enhance their offensive urban operations capabilities.

US Army tactical doctrine must specifically stress the importance of hatches being open while conducting offensive urban operations, if using the M1 series of tanks and BFVs. The crews must also be ready to fire crew served weapons and personal weapons from open hatches. This allows for the otherwise uncovered dead space in an urban environment left by the M1 series of tanks and the BFV to be covered by direct fire.

The M1 series of tanks and the BFV need to be modified to operate in an urban environment. The tank commander and loader on a M1 series of tanks should be able to fire and load while provided with the armored protection from the M1 series of tank and BFV. At a minimum the modifications should allow the tank commander and loader to fire and load from within the vehicle with hatches in the closed position. Also they should be able to fire these weapons day or night and have the appropriate sights required.

Armor raids are not adequately covered in current US Army tactical doctrine. The possibility of an armored raid is mentioned in FM 3-21.71, *Mechanized Infantry Platoon and Squad (Bradley)*. However, it does not provide guidance for planning or execution. US Army tactical doctrine should provide the following guidance at a minimum to

conduct an armored raid: METT-TC, tactical movement, maneuver, task organization, combat support considerations, combat service support considerations, and a few TTPs. The emphasis on the development of the TTPs should focus on three areas. First, TTPs for the three elements of a successful raid, support, security and assault elements. Second an example of possible orders of march by vehicle type during movement to the objective. Third, examples of how to task organize down to the section if required.

US Army tactical doctrine for offensive urban operations does not address the critical need to protect the LOC. The LOC must be protected in order for armor to survive in the urban environment. The M1 series of tank's high rate of consumption of fuel as discussed in chapter 4 makes this especially critical. Therefore, US Army tactical doctrine should include the mission of protecting a theater LOC. Possible start points for tasks include establish a checkpoint, defense of a strong point, and mounted convoy operations.

US Army tactical doctrine is clear on the importance and responsibility of land navigation. This study therefore has no recommendations for US Army tactical doctrine to emphasize the leader importance of land navigation. However, there are improvements to land navigation in urban environment training that are needed. Mounted land navigation training in an urban environment can rarely be conducted with the full composition of a units personnel and equipment. At home station units should utilize Nontactical Vehicles (NTVs) to conduct mounted land navigation training in an urban environment. Second, increase the difficulty by changing the vehicles to High Mobility Multipurpose Wheeled Vehicle (HMMWVs) and conducting the land navigation as a tactical operation. Thought it is a training exercise without troops (TEWT), have the

leadership conduct the full troop leading procedures (TLPs). Third, add troops and assigned equipment whenever possible.

Additional training is required for armor to conduct offensive urban operations as highlighted in the lessons learned and can be broken down into four categories. First is training specifically for gunnery of the M1 series of tanks and BFVs. The second type is maneuver training. A third critical training task is combined arms. Finally, crew served and individual weapons, must be trained by all individual soldiers.

The gunnery tables for the M1 series of tanks and BFVs do not train crews for offensive urban operations. The tables should include ranges from 50 to 100 meters and targets should be enemy vehicles and dismounts that include friendly locals. The targets should be arrayed to cover the full spectrum of the three-dimensional urban environment. At a minimum this can be accomplished by having the targets in basements, cellars, all floors of buildings, alleys, and sewers. This will provide a minimum baseline for all armor crews to be trained in gunnery for the three dimensional nature of offensive urban operations.

The US Army does not train offensive urban operations. This is partially explained since the US Army does not have a dedicated urban operations maneuver center. The Army's premier training centers, Joint Readiness Training Center (JRTC), Combat Maneuver Training Center (CMTC), and the National Training Center (NTC) all have incorporated urban operations into the standard rotation. However, they all need to build and incorporate live fire training (LFX) and maneuver training conducted in conjunction with an offensive urban operation in a complex urban environment.

The training must be conducted in combined arms teams. The armor, infantry, artillery, and engineers must train together prior to combat and under realistic LFX and maneuver training as discussed above. The combined arms training must also ensure that all armored vehicles and dismounted infantry in the unit's task organization are incorporated into the training. This will allow platoon and company teams to be trained for offensive urban operations.

Current operations in Iraq suggest a need for all soldiers to be proficient in all weapons organic to the unit. This requirement is linked to routine need for every soldier to provide personal and unit security once outside the protection of the forward operating base conducting operations. The training should include a familiarization of heavy systems like the M1 series of tank and the BFV. But the core of the training should be on training and qualifying every soldier on all crew served weapons and individual weapons in the unit. This training would provide a baseline of weapon familiarization and facilitate unit security.

General Recommendations

There is no specific guide to armor in urban operations. Armor Branch should produce a guide that mirrors the *Infantryman's Guide to Urban Operations*. This guide is critical to future success of offensive urban operations. Lessons learned from the most recent operations in Iraq should have priority and lead the construction of the guide. The guide should be developed including input from at a minimum: Armor, Infantry, Artillery, Engineer, Military Police, CS and CSS branches. It should also include armor relevant input from career field designations information operations and civil military operations.

Current US Army tactical doctrine does not capture the nature of armor in urban operations. The US Army should conduct a complete rewrite of current doctrine on offensive urban operations. The lessons learned from the most recent war in Iraq should be the basis for revisions. The lead for the project should be the US Army. The endstate for the project would be a comprehensive joint doctrine at the company team level for offensive urban operations.

Conclusion

The purpose of this chapter was to provide an answer to the research question presented in chapter one: Is US Army tactical doctrine adequate for the successful employment of armor in offensive urban operations? The purposes of all previous chapters were directed at answering this research question. Chapter 3 reviewed the armor lessons learned from the historical case studies of Aachen, Beirut, Grozny, and Baghdad. The lessons learned were compared with current US Army tactical doctrine on offensive urban operations in chapter 4. The results of the analysis from chapters 3 and 4 are that current US Army tactical doctrine is adequate for the successful employment of armor in offensive urban operations.

GLOSSARY

Armor. The words armor and tank should not be used interchangeably. Rather this study will use armor as a function and not a family of vehicles or specific unit. In this study, armor must bring mobile firepower with protection. Fire power being defined as .50 caliber or higher and protection equals the ability of protection from RPGs and below. The most common examples of armored vehicles currently in the army's inventory are the M1 series tanks, M2/M3 Bradley Fighting Vehicles (BFVs), the M113 Armored Personnel Carrier (APC), and the Stryker.

Combined Arms. The synchronized or simultaneous application of several arms, such as infantry, armor, artillery, engineers, air defense, and aviation, to achieve an effect on the enemy that is greater than if each arm was used against the enemy in sequence (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-37).

Combined Arms Team. Two or more arms mutually supporting one another, usually consisting of infantry, armor, cavalry, aviation, field artillery, air defense artillery, and engineers (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-37).

Doctrine. The concise expression of how Army forces contribute to unified action in campaigns, major operations, battles, and engagements (FM 3-0 2004, 1-14).

Mission. The task, together with the purpose, that clearly indicates the action to be taken and the reason therefore. In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. The dispatching of one or more aircraft to accomplish one particular task. (Army) - The primary task assigned to an individual, unit, or force (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-126).

Raid. An operation, usually small scale, involving a swift penetration of hostile territory to secure information, confuse the enemy, or destroy his installations. It ends with a planned withdrawal upon completion of the assigned mission (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-155).

Standard Operating Procedures (SOP). A set of instructions covering those features of operations which lend themselves to a definite or standardized procedure without loss of effectiveness. The procedure is applicable unless ordered otherwise (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-176).

Tactics, Techniques and Procedures (TTP). 1. Tactics - the art and science of employing available means to win battles and engagements. 2. Techniques - the methods used by troops and/or commanders to perform assigned missions and functions, specifically, the method of employing equipment and personnel. 3. Procedures - the standard and detailed courses of action that describe how to perform a task (FM 1-02 (101-5-1 MCRP 5-2A) 2004, 1-183).

Thunder Run. Thunder run is not an operational term. Raid is the proper term for the mission assigned to TF 1-64 AR on 5 April 2003 (Fontenot, 379).

Urban Operations (UO). (Army) Offense, defense, stability, and support operations conducted in a topographical complex and adjacent natural terrain where manmade construction and high population density are the dominant features (FM 3-06 2003, Glossary-33).

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